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ORIGINAL ARTICLES.

ARTICLE I.—SKETCH AND REMINISCENCES OF THE LIFE OF DR. J. MARION SIMS; AS GIVEN AT THE LATE MEMORIAL MEETING OF THE MONTGOMERY COUNTY MEDICAL SOCIETY. By W. O. BALDWIN, M.D., of Montgomery, Alabama.

Dr. W. O. Baldwin said:

MR. PRESIDENT AND GENTLEMEN: In my somewhat lengthened life it has often been my lot to mourn the death of cherished friends and associates, and to feel those bitter heartaches which spring from lost companionship and cherished affections. One by one, I have seen many such whose lives had become a prominent part of my pleasures here pass to the spirit land; but seldom has my heart been so filled with gloom as since the morning when the wires brought us the news of the death of my old and loved friend, Dr. Marion Sims.

I am sorry I am not able to pronounce, as you have requested me to do, a fitting eulogy upon the life and achievements of this great physician and good man. This duty belongs to an abler tongue than mine, and more ample opportunities than I possess. Rest assured, however, that the task will be performed in due time, and that the world which so fully acknowledged the amplitude of his genius and the vastness and grandness of his benefactions to suffering woman whilst living will not fail to accord to him when dead that niche in the temple of fame which he so justly deserves.

I probably know more of Dr. Sims' personal and professional history whilst he lived in Alabama than did any one else, except his brother-in-law, Dr. R. B. Jones, still one of our esteemed members.

So far as I can learn of his history, there was nothing particularly striking in his character up to the time when he settled in this city in the fall of 1840. I learn from persons who knew him almost from his childhood, that when a boy he was not particularly remarkable for traits of character which distinguished him above other boys of his age. In his classes at school he stood fairly well, but was not precocious, and attracted no particular attention beyond his handsomely chiseled face, his delicate physique, and his genial and playful turn of mind.

After graduating at the renowned college of South Carolina, he studied medicine in the office of Dr. B. C. Jones, at Lancaster, a small village in the district in which he was born, and about ten miles from that spot. He afterwards attended lectures at the medical college at Charleston, South Carolina, but received his diploma at the Jefferson Medical College of Philadelphia. After graduating he returned to Lancaster, and for a short time offered his services to

practice medicine in that village. As is often the case with young men attempting to practice in the towns where they had passed their boyhood, he did not meet with great encouragement, and after remaining there but a short time he removed to this State (Alabama), and located in the fall of 1838 at Mount Meigs, a small town about twelve miles from Montgomery. He remained about two years, during which time he returned to Lancaster in 1836, and married Miss Eliza Theresa Jones, who still survives him. After returning to Mount Meigs with his wife, and remaining about a year longer, he removed to Macon County in 1837, and settled in a neighborhood near Cubihatchie Creek, and not far from a little place called Cross Keys. From this place he removed to Montgomery in 1840, bringing with him his little family—consisting of, I think, his wife and two little girl children. It was at this juncture of his life that I first knew Dr. Sims. He was about six years my senior, yet we soon became intimate friends, I suppose partly from the fact that I was nearer his age than any of the other physicians of the place, and the additional fact that neither of us was overwhelmed with business, and had plenty of leisure to cultivate each other's society. I thought he was the most winning and captivating man I had ever met, and I soon learned to love him as I did my own brother, and meeting a reciprocal feeling of attachment on his part, our intercourse soon ripened into confidential relations, which were not disturbed during his residence in this place.

At the time Dr. Sims located in Montgomery, he had scarcely any income except from his profession, and that being quite limited for the first year, he was sorely troubled about meeting his current expenses for a time.

But his was not a nature to be discouraged long. He was all zeal, energy and pluck. Within a few months after he located here, the operations for club-foot and cross-eyes, the latter of which had but recently been devised by Dieffenbach in 1839, and practised successfully by him, was creating quite a sensation in Columbia, South Carolina. Dr. Toland, then of that city, and now of San Francisco, had but recently visited and returned from Paris, and was making quite a reputation as a surgeon by performing these operations in Columbia. I heard Dr. Sims read from a newspaper published in that city the first accounts he had ever seen of the operation for cross-eyes, commenting most favorably upon Dr. Toland's success. This, I believe, was the starting point of the great success of Dr. Toland as a surgeon.

Dr. Sims immediately procured for himself a neat case of eye instruments, and was not long in finding cases of each of these unseemly deformities upon which to try his skill.

I was present at his first operation for each. They were attended with beautiful success, and, being novel, were much talked about. He was, even at that day, a remarkably neat and pretty operator, and I think handled the knife with more grace and skill than any man I have ever known of his age. His first successes brought him other cases, until within one or two years he had about finished up and straightened all the cross-eyes and club-feet within forty or fifty miles of Montgomery. This proved to be his stepping-stone to general surgery, and within a few years more he had the largest surgical practice in the State, excepting, perhaps, that of Dr. J. C. Nott, of Mobile. He was a bold, fearless and dashing operator, and would undertake almost any case that any other surgeon dare encounter.

At this day we had no such thing as specialties in this part of the country, and a man who could operate for cross-eyes would be trusted to operate in the most formidable surgical diseases, and was also considered a good physician in all the various departments of medicine. So that his surgical reputation in turn brought him into general practice, and very soon he had the largest family practice that had ever been done in this place by any physician up to that time. His services were sought by all classes of people, and in all kinds of cases. He

was frequently, though still a very young man, called into consultation with the oldest and most experienced physicians of the place, men who had long been established in practice. He was immensely popular, and greatly beloved, so that he was a formidable rival to the best established physicians, and with all these facts it would not be greatly surprising if he did not always escape criticism. But when such things were carried to his ears, they never made the slightest difference in his feelings, or his deportment towards the authors of them, but he would meet and pass them with the same kind word and pleasant smile which was always his custom.

When Dr. Sims came to Montgomery we had no medical society here for the report of cases and the discussion of medical subjects. Very soon after he located here he took an active part in the formation of the old medical society, and was from that time one of the leading members in its affairs, and much of the *esprit du corps* which has since distinguished the physicians of the place was due to his example and influence.

Whilst he lived here he performed almost all the important surgical operations known to science at that day. He was from the first a hard student, and thoroughly methodical in keeping notes, records and histories of his cases, and in reading medical journals, and in keeping up with the medical literature of his day.

After the first year of his residence here he kept a private hospital in which to care for his surgical cases. This, after he first became interested in his speculum and in uterine surgery, he devoted exclusively to females, and especially to such cases in uterine surgery as were calculated to test the value of his speculum, in which he was already deeply interested.

I do not remember the precise year, but it was after he had acquired his great local reputation as a surgeon that he became deeply interested in working out what was at first known as his duck-bill speculum, the vaginal speculum which now bears his name, and which was the foundation of the brilliant reputation which he has since achieved. He interested his medical friends in the country in hunting up for him difficult cases of uterine diseases which had resisted treatment in the hands of other physicians, and he was delighted when among these he could find a case of vesico-vaginal fistula, that loathsome disease of woman, which had previously been regarded as the opprobrium of surgery, and which physicians rather shunned than courted. He became enthusiastic in this as he was in all his pursuits, and was not slow in finding cases of this disgusting disease, particularly among the slave population, whose management in accouchement was generally confined to the ignorant midwives of their own color. His efforts promised success from the start, sufficient to encourage him to continue his labors. Failures did not dishearten or repulse him, but he worked on and on, sometimes performing dozens of operations on the same case, until final success was achieved. During all this time he was devising methods and plans for his procedure in his operations, and was inventing instruments and appliances as collateral aids to his speculum. Of all his labors, trials and achievements in this direction I think he has somewhere published a statement, probably in the *American Journal of Medical Sciences*, or it may be found, perhaps, in his book entitled "Notes on Uterine Surgery," which I have not looked at lately.

If my memory serves me correctly, this brings us to about the year 1849, when in the midst of his investigations his health failed him, and he gave up much of his time to visiting different health resorts in order to regain it. This was a serious drawback to him, and came near ending his life. Having no regular or fixed income, and receiving now but little from his professional services, his financial affairs suffered greatly, and he again became hard pressed for ready means to support his family, which had grown to be larger and much more expensive than when he first came to Montgomery.

About the year 1851 or 1852, I think it was, he began to entertain the thought of leaving Montgomery, and about that time he sold his office to Dr. Nathan Bozeman, and took that gentleman into partnership with him. Dr. Bozeman has since that time attained great distinction as a gynæcologist, and is at this time one of the surgeons to the Woman's Hospital of New York. The plea which he gave for wishing to remove to New York was that he believed this climate was unsuited to his health, but it is also probable that his desire to find a larger field in which to display his discoveries in that department of surgery to which he had lately been devoting his time had much to do with his desire to change.

From the time he reached New York to make it is home (I think in 1853), I shall not attempt any further connected account of him.

I will say, however, after further and fully demonstrating the value of his speculum and various other instruments and devices used in his operations, and in displaying his own superior skill in the use of them, he devoted himself to the thought and purpose of founding, through his exertions, a great charity, in that large metropolis, for the treatment of the diseases peculiar to women. You all know of his labors in that direction, for they are now a matter of history. You all know how faithfully he labored with some of the great and benevolent of his own profession, and how he besought and obtained their aid; how he appealed to the hearts and enlisted the help of the influential, the opulent and the philanthropic; how he visited and obtained from the Legislature of the State a donation of fifty thousand dollars; how he besought the City Fathers for municipal aid, and procured from them a grant of land from the city which constitutes the site on which the hospital now stands; how he, with ceaseless and tireless energy, worked and planned with a devotion and singleness of purpose rarely met with, until the Woman's Hospital was an accomplished fact. This act of his alone shows what a magnetic power he must have possessed. How he, a stranger; he who had scarcely emerged from the obscurity of a country life, and himself in poverty, could so move the hearts of the people of a great city such as New York, and make himself the first and final cause of a great enterprise which, like the Woman's Hospital, should be a blessing to his race, shows how earnestly and untiringly he must have exerted his powers of persuasion over the minds of men. His effort in the scheme of establishing this hospital, strange to say, was not always without opposition from quarters from which it should have been least expected.

Dr. Sims' health was never robust, and yet he could endure an amount of prolonged physical exertion which was remarkable for one of his apparently delicate physique. He had lived beyond the age of three score and ten, and yet his death was a great surprise to those of us who knew something of the elasticity of his constitution and the great care he always took of his health. I have seen much of him within the last fifteen years; I have been with him often in New York, and have met him at various other places, and twice during that time he has paid long visits to Montgomery, and I was led to believe that he would probably reach four score and ten, so perfect seemed his physical and mental preservation. When I saw him last he looked as if he had not more than reached the meridian of life, and he told me he thought he would live to be ninety—though at that time he had no idea of any organic trouble about his heart. Only a few days before his death, I received two letters from him, written on two consecutive days, in which he says: "You can't imagine how disappointed I am that I could not make you all a visit this fall. But if I live another year, you may count on seeing me in Montgomery. But for that dreadful pneumonia, I would certainly have lived to be ninety. But my heart gives me so much trouble that I have given up the idea of longevity, still I hope to hold on a while longer." Whilst he was in Rome last, in one of my letters

to him I begged him to stop his wandering, cosmopolitan life, and settle down in New York, and die there when it should please Heaven to end his days. In his reply, under date of Rome, January 14, 1883, he says: "I spend most of my time in Europe because my life is more pleasant here; my fees are much larger, I make more money, my work is lighter, and I have more leisure." And in the last of the two letters referred to above, he again refers to the same subject, and says: "I cannot follow your advice and settle in New York. I could not possibly do the work there. I must go, and will sail on Thursday, the 8th, on the Celtic; I shall remain about three weeks in Paris, on my way to Rome." During the latter part of the summer, my letters from him were written from the residence of Mr. Yulee, formerly United States Senator from Florida, but now living in Massachusetts. Whilst there he was occupied chiefly in dictating to a stenographer his autobiography. He sent me advance sheets as they had been printed by a type writer. It consists of a brief history of his life, modestly told, interspersed with little anecdotes, and life-stories which no one could tell so well as himself, if at all. It is deeply interesting, and reads like a romance. He did not expect to complete it before he reached Europe, but I sincerely hope he has brought it far enough up to make its completion an easy task for one of his children.

Dr. Sims' domestic relations were most fortunate and happy. The wife who survives him, and who now sits in the tearful and hopeless agony of her grief within the precincts of Madison avenue, was the sweetheart of his boyhood. She was a loving and cheerful companion, a wise counselor, a true helpmeet; and throughout his brilliant but chequered and eventful life she shared his prosperity with joy and gladness, and bore his adversities with becoming patience and resignation; but at all times and under all circumstances she has been to him "like the ivy to the oak, which clings closest in the storm." It was beautiful to see him in the sanctuary of his own home, when surrounded by his wife and children, and witness their common devotion, where even in his advanced age he seemed as the "big brother" of the family. And when in their youth, with but two little children hanging upon their hearts, I used to visit them at their modest little home in this place, they made a picture of sweet and confiding domestic bliss which has not, in all these changing years, left my memory. At that time I had no matrimonial ties or expectations, but their intercourse I am sure left a charm and a lesson on my heart which has not been without its pleasures as well as its profits. In later years, he has expressed to me the same chivalric and tender devotion to his old sweetheart, and assured me that all he was in this world was due to his fortunate selection of a wife.

As an author Dr. Sims stood well. He was never a voluminous writer on any of the subjects of which he treated. His work entitled "Notes on Uterine Surgery" was his largest, and was quite a respectable volume. It was printed in London in 1866, and was reprinted in several languages. It created quite a sensation from the number of original, novel and valuable lessons which it taught. It also met with some sharp criticisms, and, perhaps, it was not entirely free from blemishes. But had he lived according to his expectations, he would have corrected all these in good time, as it is known he was engaged in re-writing it, and had already completed several new chapters and had revised others. Take it, however, as it stands, and with all its defects there has been no work published on uterine surgery within the last century that has been as full of original thought and invention, or that has contributed so largely to the advancement of gynæcology as this book has done. I will not attempt to go into detail about his writings. Although I am somewhat familiar with them all, I have no list of them with me. Though his contributions have not been long, they have not been infrequent, and many valuable essays on different subjects have been furnished by him to the medical press of his day. It is not the length or the num-

ber of the books, however, which a man may write, but it is the originality and the value of the material with which he fills them which makes them desirable. His were all terse, original and eminently practical. His style was peculiar, it was altogether didactic, and it was his own.

I cannot, either, undertake in the short space of time allotted to occasions like this to go into detail in enumerating the number of instruments which he invented, or the operations or operative procedures which he devised or planned, but their number was immense, and shows how fertile of ingenuity was his brain, and how busily and skillfully it must have worked. He does not seem to be entitled to priority in the discovery of metallic sutures, but he was certainly entitled to great credit in their revival and the vast prominence which he gave them.

Dr. Sims' clients, especially in Europe, seem to have been people of great wealth, and from his acknowledged superiority in his special department he was able to command the largest fees, and yet he never became rich. He also had a proper appreciation of the value of his services, and usually demanded an adequate honorarium where his patient's purse could afford it; but when it came into his possession it seems that it was either lavishly spent or unwisely invested. (We are glad to learn, however, he left a competency for his family.) He was also a man of large charities. But it is unnecessary to dwell upon these minor points in his life. The day which made him great was the day when the idea of his speculum first dawned upon him. That day when he first conceived the thought of throwing an abundance of light into the vagina and around the womb, and at the same time obtaining ample space to work and ply his instruments. This alone is enough to carry his fame down to the remotest ages, and his panegyrist will need no more brilliant facts than these on which to rest the immortality of his name. This instrument caused his name to flash over the medical world like a meteor in the night.

Gynæcology to-day would not deserve the name of a separate and cultivated science but for the light which Sims' speculum and the principles involved in it has thrown upon it. It has been to diseases of the womb what the printing press is to civilization, what the compass is to the mariner, what steam is to navigation, what the telescope is to astronomy, and grander than the telescope because it was the work of one man. Those great philosophers, Galileo, Gregory, Herschel and Sir Isaac Newton, all claim and deserve successive parts of the telescope. Sims alone discovered his speculum, and like Minerva, from the brain of Jupiter, it sprang from his hands alone full fledged and perfect as when he gave it to the world. His work was so complete that it is said that no alteration or modifications which have since been made upon it up to this time have been regarded as improvements. The distinguished Dr. Emmet, of New York, who is peer to any living gynæcologist, and whose reputation is world-wide, has been heard to say, within the last few years, that so perfect was Sims' speculum and other instruments that he had never been able to improve upon one of them. No man can divide the honor of his speculum with him, and he deserves to be called the father of gynæcology.

Thus, from starting amid the sloughs and swamps of Alabama, having for his patients the most humble in the land—often spending his nights by the bedside of the sick found in the slave huts of these localities—without family influence, poor, and with nothing to aid him, save a strong will and careful preparation combined with a devotion to purpose, he rose by the splendor of his own genius above all obstacles, and before he had reached the meridian of life, we find him one of the acknowledged discoverers and benefactors of the world, and ranking as one of the foremost men in his own country. And a few years later we hear of him in all the great capitals of Europe, sometimes the guest and pet of Emperors, often receiving honors and distinctions from learned and enlightened scientific bodies,

courted by the élite of his own profession, sought by the nobility, and receiving titles and decorations from courts representing and boasting the most splendid civilization the world has ever known.

I believe that before the next decade shall have half past away, when time with its silent throb shall have buried those antagonisms, rivalries and jealousies which often spring up around the paths of great discoverers, it will be the settled verdict of the medical men of the world, that Sims has lived to a greater purpose than any man in any age who has preceded him in his special department.

Gentlemen, there is one page in the life of this great man, one scene in the living panorama of which he constituted a part, that I would fain not disturb, and one on which I would prefer to drop the mantle of oblivion, were it not that it is already a matter of history, and perhaps it is due to the memory of Dr. Sims that I should refer to it.

I allude to the night when, as one of the surgeons, he last met the governors of the Woman's Hospital, and which closed forever his connection with that institution.

It is said that republics are ungrateful, and it therefore should not be surprising if even the governors of charitable institutions should sometimes forget their greatest benefactors, and smite the cheek of him whose hand was chiefly instrumental in calling them into existence. The Woman's Hospital was Dr. Sims' bantling. The creation of its germ and the conception of its possibilities was the outgrowth of those discoveries which emanated from his brain alone, and its final success was due to his untiring exertions. He was proud of his work; he was proud of the child of his own life, and when the Woman's Hospital was completed, he regarded it as the largest pearl in all his greatness—the central jewel in his crown of glory. But whilst it was the glory of his life, it was its humiliation too!

Those governors, who were in fact but little more than figure-heads, so far as the privilege and duties of the surgeons were concerned, had taken upon themselves the privilege of regulating the affairs of the operating room, and of saying to the surgeons that only fifteen guests or spectators should be permitted to be present at any one operation. Dr. Sims took this occasion for telling them that he had not obeyed this order of theirs, and would not; and that if they insisted on enforcing this rule his resignation was at their disposal. He claimed the right to invite such numbers as his own judgment and inclination might dictate.

Their action in assuming to restrict his privileges in this respect he regarded as without authority. To a man of honor their action must have been offensive.

It in effect accused him of being ignorant of the surgeon's duties in the sick room, and wanting in a proper regard for the feelings and sensibilities of his patients. All this made it insulting and galling to him, and especially as he knew it to be an unauthorized invasion of his own prerogatives, inherent to the office which he held, and altogether outside of their accredited duties.

All the world over, the creed of common courtesy which exists between the laity and profession makes the physician the autocrat of the sick chamber, and the privilege of the surgeon as to whom he will invite to his operating table or room has never before been restricted. If it was wrong to invite all who desired to attend, or all whom the surgeon might wish to witness his operation, why invite fifteen? It was not necessary to invite any! The hospital service afforded all necessary assistance. If it would not offend the sensibilities of a woman to have fifteen guests present, would it shock her modesty very greatly to have eighteen, or twenty, or fifty, or a hundred, or any number that the room could accommodate conveniently? Besides, it is well known that the patients in this hospital are rarely ever seen by the spectators until after they have been placed upon the operating table, and under the influence of an anæsthetic when the table is rolled into position. And another even stronger reason exists against

this restriction. To serve all the purposes in the interest of woman, for which this hospital was capable, it was doubtless intended or in contemplation by Dr. Sims from the first that it should he used as a school, so far as possible, for teaching physicians from the country, or city, or other cities, or from other States or nations, who might temporarily be in New York for the purpose of studying that class of diseases, and would like to see these operations.

But suppose these governors could find nothing in all these facts to make them retrace their steps, could they find nothing in the fact that Dr. Sims thought they were in error and wished them to re-consider their unjust and unwise action? Could they not have conceded something to the opinions of the man who had created the hospital, who had devoted fifteen or twenty of the best years of his life to its service, who had passed many weary days and sleepless nights in the promotion of its interest, and had carried it upon his heart as none of them had ever done? They knew he had placed himself in a position in relation to the order which they had issued, from which he could not recede without loss of dignity or even honor; they knew he did not wish to sever his connection with the hospital, and they knew he did not wish his resignation accepted, and yet, with a heartless and cruel inflexibility, they refused to abolish their miserable order, and accepted his resignation; thus stabbing him in the most vital spot and mortifying him as nothing else had ever done.

In this difficulty Dr. Sims had the sympathy of a large portion of the medical men of America. And as an expression of their sentiments in this direction, the American Medical Association, at its very next meeting, unanimously elected him its president. He was elected in Louisville in 1875, and presided at the meeting held in Philadelphia the succeeding year, known as the "centennial session." This was the very highest honor which could have been paid him by the medical men of his own country. Whilst Dr. Sims in every way deserved this high compliment, and was himself an honor to the position, I yet have reason to know that he was selected at this particular time, over other distinguished aspirants, not only that they might thus express their admiration of his exalted worth, but also in approval of the manly, dignified and honorable position which he had assumed and maintained in his controversy with the managers or governors of the Woman's Hospital.

When the names of these sickly, sentimental governors shall long since have passed away, with their foolish rules and regulations, and even their remotest connection with this hospital shall have been forgotten by the world, the name of Sims shall be known and read of all men as its great founder and patron, and emblazoned all over its walls, "from turret to foundation stone," as its ensign-armorial and shield to guard it against evil.

Nor can posterity accept the imputation as true or just, that the man who had planned and schemed and worked, even in the midnight solitude of his office, that his life might finally achieve this good to women, be the one to be false to any of the proper delicacies or courtesies due to her sex. I will not pursue this subject further—it is not a pleasant one to dwell upon. He is now far beyond the cruel malice or petty jealousies of those who persecuted him, and the manhood which recognizes the great value of his life will see to it that his name does not suffer neglect in the grave.

Pardon me, gentlemen, for a little personal allusion to myself connected with Dr. Sims.

From the time when Dr. Sims located in Montgomery, up to the period when he left to cast his lot in the great city of New York, he was my warm and devoted friend, and my loved companion. He was open and confiding to his friends. I was proud of his confidence and affection, and gave him in return the full measure of my own. The act which I am about to refer to is known to but a few only of the older members of this Body, and is this: A few weeks or

months after he had removed from Alabama to New York, a little misunderstanding grew up between us which resulted in our estrangement, and for many years afterwards all intercourse between us ceased. This has always been to me one of the bitterest episodes of my life, and memory never recalls the event without a feeling of sadness and regret. In this rupture I was probably more to blame than he, and I have no doubt that, had not our paths in life widely diverged at this time, the heartburning which our separation had caused to last for long years would have been forgiven and forgotten in a few days.

In 1868 I made a visit to New York, and whilst I was there he returned from a prolonged visit to Europe. The first time we met was at the opening of the Bellevue Medical College, when Dr. L. A. Sayre was to deliver the introductory address. We were each, without the knowledge of the other, invited to go on the rostrum, and were to meet in the faculty room to join the faculty for that purpose. I did not know that Dr. Sims was in the room, and at the time I entered he did not observe me, but soon I felt some one clasp me around the neck with both arms, and looking, I observed my long-lost friend Sims, who only said, "Baldwin, my old friend." We had no words of explanation, but from that moment all feeling of resentment left my heart, and again I loved him as a brother. Since then our intercourse by letter and otherwise has been constant, confidential and free.

I look back now upon my association with him as one of the providences of my life, and his death as one of its bitterest afflictions.

Article II.—Use of Peroxide of Hydrogen in Diphtheria.

By R. J. Nunn, M.D., Savannah, Ga., Physician to the Female Department of the Savannah Hospital.

The two theories of the action of the diphtheric poison. The constitutional theory.

The treatment of diphtheria is influenced no little by the views entertained by the attending physician as to the mode of action of the poison.

There is a large class of practitioners who look upon the disease as a constitutional one, having local manifestations, and deem any interference with the inflamed membrane as not only useless but positively injurious, as liable to increase the local inflammation, and thus aggravate rather than lessen the virulence and danger of the malady.

Such practitioners are naturally led to depend largely if not entirely upon internal medication and external local applications. They, of course, recognize the danger of early suffocation, the death of the patient from mechanical obstruction of the larynx, but they look upon the topical application of any of the local remedies at present in use as hastening rather than retarding the fatal termination of the case.

If to these gentlemen a means can be presented of removing the membrane and of preventing its spread, the application of which will not be irritating, there is little doubt that they will willingly give it an external trial, recognizing the fact that by its use the threatening fatal issue of the case may be somewhat postponed, valuable time may be gained in which their constitutional remedies will have an opportunity to act, and thus their chances of saving their cases may be increased.

The attention of these physicians is directed to the remedy which is the subject of this memoir, and which appears to possess in no small degree the powers and properties desired. It is hoped they will not hesitate to place it upon trial and use it for what it is worth, even though it may not quite realize all their anticipations when tried upon the first few cases.

The best mode and manner of employing a remedy are only to be learned by practice and experience, and early failures of any means of medication should not

always be ascribed to the powerlessness of the medicine, or to its unsuitableness to the class of cases for which it has been recommended, but rather to a certain want of dexterity in its application, or lack of the knowledge of essential surroundings necessary to insure the full and complete results of its employment.

THE LOCAL THEORY.

It is questionable if the belief in the primary local origin of diphtheria and the secondary constitutional infection is not most widespread among the members of the medical profession; certain it is that very few of them would venture to treat a case of diphtheria without having recourse to various local applications, most of which have some action upon the exudation, combined with more or less of an antiseptic character. To these gentlemen, the peroxide of hydrogen cannot but commend itself as worthy of an extended and impartial trial after a careful perusal of the following brief and imperfect account of some of its valuable properties and singular reactions, peculiarly its own, when placed in contact with these false membranes, and also as a chemical reagent.

ACTION OF TOPICAL APPLICATIONS UPON THE DEPOSIT.

For convenience in discussing the subject of this paper, the behavior of the medicines applied to the membrane may be classified as follows:

1. Hardening the membrane as in the action of tannin.
2. Softening or dissolving the deposit as upon the application of pepsin.
3. Antiseptic, *i. e.*, destroying the power of growth in the abnormal elements:
   - (*a*) Germicidal, being destructive of the growth, but not of the spores, as carbolic acid.
   - (*b*) Sporicidal, when the destructive power of the medicine extends to the spores, as the biniodide of mercury, etc., including probably the peroxide of hydrogen.
4. Some combination of the above actions. It is not assumed that this classification is at all scientific. It is recognized as arbitrary, and is adopted simply for convenience in discussing the subjects appertaining to this paper.

HARDENING THE MEMBRANE.

The underlying principle involved in the use of this class of applications is the change in the condition of the pseudo-membranous deposit, which renders it an unfit soil for the propagation or spread of the active agents at work in the disease. Unfortunately, however, the very principle upon which the action of this class of remedies is founded demonstrates a proportionately increasing obstruction to the activity of the medicine itself, in a ratio increasing as the remedy is efficacious.

The agent employed comes first in contact with the superficial coating of the membrane, hardening it and condensing it as a beating rain upon a clay soil. After this takes place, the action of the medicine is limited to the surface in a great degree, having little effect upon the burning mine beneath in which the fire goes on in its path of sure and certain destruction.

The scathing effects of the cold wintry wind may be fatal to the leaves and blossoms of the tall and stately trees, which by their death protect the poisonous toadstool flourishing in the dense verdure beneath.

DISSOLVING THE MEMBRANE.

An ardent search has for some time been progressing to find some substance which would dissolve the deposit of diphtheria.

Gutman proposed the use of *pepsin*, and its employment has in many cases

been attended with success. Later on *papyotin* was suggested as a digestive or dissolving agent, similar in its action to pepsin, but many times more active, and moreover possessing, it is said, the no less singular and valuable property of acting equally as well in fluids having an alkaline or an acid reaction. (The name of the proposer of this remedial agent has unfortunately escaped my memory.) Both of these agents, and, indeed, all of the others, such as lactic acid, lime water, &c., put forth as solvents of the membrane, lack the power of destroying the vitality of the germs, and often it seemed as if the spores simply floated away to attach and propagate themselves upon other spots of suitable soil. This is the weak point of this class of remedies when used alone.

It is a fact not generally known, if at all mentioned by any writers upon the subject, that bacterial life is suspended by pepsin, papyotin, &c. This assertion may be easily verified by adding pepsin to some putrid organic fluid, when it will be found upon examination under the microscope that the evidence of life, *i. e.*, motion, has ceased in the previously active bacteria ; indeed, many of the bodies will apparently be disintegrated. This change, however, is only temporary, as after a variable interval of time, depending it would seem upon external causes, vitality again appears. This action may in part account for the beneficial effects produced by pepsin, papyotin and like chemical ferments upon the deposit of diphtheria.

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It will be observed that the result of the application of antiseptics to the diseased parts may be either the death of the growing tissue or the destruction of this and the spores also. Such an action is not difficult to comprehend ; it constantly takes place within the sphere of our observation in the microscopic world around us. The parching heat of a summer sun may scorch and destroy whole fields of verdure, but the seeds remain unscathed, full of vitality to reproduce their kind. Within an hour a bacterium may run its round of development and propagation and produce new fields of destructive germs.

A review of a number of cases and of reports of physicians in various parts of the world would lead up to the conclusion that the disease we call diphtheria is not the effect of one organism alone, or if it is so, that the powers of resistance to remedies varies in certain stages of its growth, or in various localities, subject perhaps to certain climatic differences of which we have heretofore failed to take cognizance. This is the only way by which we can account for the fact that remedies which are eminently successful, nay, specific in their action, in one part of the world, prove utterly powerless in another, for it is not to be supposed for a moment that so many writers and teachers, celebrated alike for their learning and close observation, could be mistaken in the disease, or that gentlemen would wilfully misrepresent their cases through a desire to appear more successful than their fellows in the treatment of this dreaded malady.

COMBINING THE HARDENING AND THE ANTISEPTIC ACTION.

In 1881 a paper was presented from me to the section on diseases of children of the American Medical Association, in which the use of a local application was advocated having in view the hardening effect of certain remedies combined with extended antiseptic action. Tannin was the hardening agent chosen, although some other might have been found to answer equally well, or it may be better. To this was added several antiseptic remedies with the design of acting upon different organisms if such should be present. The prescription met with no little ridicule at the hands of certain medical editors who failed to see the underlying principles upon which the combination was founded, but it nevertheless has done good service.

COMBINING THE SOFTENING OR SOLVENT WITH THE ANTISEPTIC ACTION.

Since Gutman published his suggestion of the treatment of diphtheria by pepsin, my attention has been chiefly directed to finding a remedy, or combination of remedies, which would dissolve the membrane and act as an antiseptic at the same time. Pepsin and papyotin with various germicides have been tried, and it cannot be said altogether unsuccessfully; but peroxide of hydrogen seems to possess qualities justifying its employment in this disease far in advance of anything else at present known to science. It exercises upon the membrane the solvent action so much desired, and while possessing antiseptic powers of a high order, it is not irritating in its action upon the mucous membrane.

HISTORY OF PEROXIDE OF HYDROGEN.

In 1818 Thenard, by the action of acids upon peroxide of barium, in the presence of water, obtained peroxide of hydrogen, the water being oxidized by the oxygen of the barium salt, thus—

$$X\ H_2\ O + B_a\ O_2 + H_2\ S\ O_4 = X\ H_2\ O + H_2\ O_2 + B_a\ S\ O_4$$

Although a great many chemists have investigated this substance and the mode of its preparation, the process of Thenard is still considered the best by which it can be obtained. As a matter of chemical information it may be mentioned that the dilute solution of peroxide thus obtained can be concentrated by evaporating in a vacuum at a temperature of less than 68° F. or by freezing out the water. Thus obtained, the concentrated peroxide is a sirupy liquid of sp. gr. 1,453, yielding 475 volumes of oxygen.

REACTIONS OF PEROXIDE OF HYDROGEN.

This pure concentrated body has a peculiar odor, is transparent and colorless, like water, than which it is a little less volatile. It will not freeze, is decomposed at ordinary temperature, and by a great number of bodies. In water it dissolves readily and the dilute solution is sufficiently stable, but its keeping qualities may be improved by acidulating the solution with a little muriatic acid, while its decomposition into oxygen and water is effected by stronger sulphuric acid.

Hydrogen peroxide is itself both an oxidizing and a reducing agent, under some circumstances yielding up its oxygen to oxidize other bodies, and under others, withdrawing the oxygen from bodies already oxidized. Sometimes it acts so energetically that explosions have resulted.

It is decomposed into water, with the evolution of oxygen, by gold, silver, and spongy platinum, by blood, fibrin, animal albumen and some other organic substances, these bodies remaining unaltered. It reduces the oxides of certain metals, producing either an oxide less rich in oxygen or else the metal itself.

Contrary to what would be predicated by a knowledge of the constituent elements of the compound under consideration, phosphorus, one of the bodies having the utmost avidity for oxygen, is not acted upon at all, while white indigo is reoxidized to blue, and the blue under certain conditions sometimes reduced to white. Arsenic and sulphuric acid are formed from arsenious and sulphurous acids and metals, as iron for example, are oxidized. Although the concentrated peroxide of hydrogen could hardly be mistaken, still, very weak dilutions may well be confounded with ozone. It is questionable, indeed, whether the air itself does not contain a certain proportion of one or other or of both these bodies, and whether the oxydizing effects produced by the atmosphere is the result of the presence of minute quantities of ozone, of peroxide

of hydrogen, or of both, has never yet been accurately determined; for although tests have been proposed by Houzeau, Schœnbein, etc., it must be remembered that the results observed with ozone can equally well be obtained with attenuations of peroxide of hydrogen. Thus the bleaching action of the air, at one time credited to ozone, is now claimed for peroxide of hydrogen. Indeed, its chief use in the arts is as a bleaching fluid, for which purpose it has, in many instances, supplanted chlorine, and it will do so to a still greater extent as the cost of its production decreases.

Although the dilute solutions of peroxide of hydrogen are but slightly, if at all, irritating, the concentrated oily liquid, which the pure peroxide forms, blisters when applied to the skin, causing at the same time no inconsiderable amount of irritation. These curious contradictory actions, this bleaching power and the property of disinfection, could never have been presupposed from its chemical composition, which is nothing but water with another atom of oxygen added, to which is due the

OTHER NAMES

by which it is known, such as oxide of water, oxygenated water, etc.

It must not be supposed that because peroxide of hydrogen produces many of the effects once attributed to ozone that therefore the existence of ozone has been proved to be a myth, on the contrary, ozone has been produced from pure oxygen, by the action of light alone, in a late experiment by M. Dessau. This distinguished chemist showed that oxygen kept in the dark did not show the presence of ozone, but after exposure to the rays from a Drummond oxy-hydrogen lamp for twenty-five minutes, ozone was distinctly shown on testing with iodide of starch.

OZONE—ITS ANÆSTHETIC AND HYPONOTIC EFFECTS.

Prof. Binz, of Bonn, has shown that when pure ozone is suitably diluted with air it can be inhaled without producing irritation of the lungs, both by man and by the lower animals. His experiments demonstrated that particularly in man sleep is produced by the inhalation. "The breathing before sleep began was quiet and full, the persons experimented upon said that it was easy and comfortable, and the passage from the waking to the sleeping state was a feeling of the most agreeable indifference." "The pulse never exhibited any perceptible change during the experiment, nor was there any alteration in the pupil of the eye or the color of the face." "Owing to the very transitory effect of ozone, it will never take the place of nitrous oxide for anæsthesia for surgical purposes. Binz himself does not lay much weight upon the practical importance of the ozone sleep, but hints that further experiments in this direction may lead to important results."

It is, therefore, not impossible that, in addition to its other valuable properties, the spray of the peroxide of hydrogen persistently inhaled may exercise a soothing and calming effect upon the patient.

POSITION OF PEROXIDE OF HYDROGEN IN THE SCALE OF ANTISEPTICS.

That the peroxide of hydrogen is possessed of high aseptic powers will be seen by the following table of Dr. S. Miguel: * It gives the weight in

* See *MedicalR cord*, Nov. 3, 1883—498.

grammes or fractions of grammes of each of these microbicides capable of rendering imputrescible one litre of beef tea:

Biniodide of mercury	0.025	Permanganate of potassium	3.50
Iodide of silver	0.03	Aniline	4.00
Oxygenated water	0.05	Divers alums	4.50
Bichloride of mercury	0.07	Tannin	4.80
Nitrate of silver	0.08	Sulphydrate of sodium	5.00
Osmic acid	0.15	Arsenious acid	6.00
Chromic acid	0.20	Boric acid	7.00
Iodine	0.25	Hydrate of chloral	9.50
Chlorine	0.25	Salicylate of soda	10.00
Hydro-cyanic	0.40	Sulphate of the protoxide of iron	11.00
Bromine	0.60	Amylic alcohol	14.00
Chloroform	0.80	Sulphuric ether	22.00
Sulphate of copper	0.90	Butylic alcohol	35.00
Salicylic acid	1.00	Propylic alcohol	60.00
Benzoic acid	1.10	Borate of soda (borax)	70.00
Chromate of potassium	1.30	Ethylic alcohol	95.00
Picric acid	1.30	Sulphocyanide of potassium	120.00
Ammoniacal gas	1.40	Iodide of potassium	140.00
Thymic acid	2.00	Prussiate of potash	185.00
Chlorides of lead, cobalt and nickel	2.10	Glycerine (officinal)	225.00
Mineral acids	2.00 to 3.00	Urea (natural)	260.00
Binitrobenzine	2.60	Hyposulphite of soda	275.00
Essences of bitter almonds	3.00	Chlorate of soda	400.00
Carbolic acid	3.20		

"Most of these substances act by paralyzing the evolution of the microbic germs, and by destroying the adult bacteria, but they have no effect on the germs of the bacteria. Certain substances, however, have by their chemical action the power of completely destroying the germs of the bacteria, and to this class Dr. Miguel has applied the term 'sporicides.' The principal among them are the preparations of mercury, and the salts of silver, which in a solution of 1-10,000 destroy in a few days the germs of microbes as surely as a dry temperature of 150° C. (302° F.) prolonged during several hours. Iodine, chlorine and bromine, and the mineral acids come next, but the microbicide par excellence is heat, which, raised to 110° C. (230° F.) for liquids, and to above 150° C. (302° F.) for solids, has been found sufficient effectually to destroy the germs of the microbes."

From the high position which the oxygenated water (peroxide of hydrogen) holds in this table, standing third on the list, and among the mercury and silver series, it may be surmised that it is also a "sporicide" of great power, and quite a number of rough experiments made by myself in this direction serve to confirm this view.

THE COMMERCIAL PEROXIDE OF HYDROGEN.

What is sold as peroxide of hydrogen is in reality but a dilute solution of it, containing from 5 to 15 volumes of the oxygen. This is quite strong enough for any medicinal use, and will keep for months at a temperature somewhat less than ordinary summer heat—70° F. Some makers add a little acid, which lessens the tendency to decomposition, which would be increased by the presence of alkalies and salts.

COMMERCIAL VARIETIES OF PEROXIDE OF HYDROGEN.

There exists in the market several makes of peroxide of hydrogen.

1. An American make which is very acid, exceedingly irritating, and should not be used.

2. An article made by Messrs. Robbins & Co., of London, which is quite an improvement upon the American, but is still much too irritating to be employed.

3. A solution, of unknown origin, procured through Messrs. Solomons & Co., of this city, and labeled, "Peroxide of hydrogen, chemically pure, 15 volumes. For external use." This seems to be very similar to that manufactured by Messrs. Robbins & Co.

4. A specimen in packages similar to No. 3, and procured from the same firm. This is labeled, "Peroxide of hydrogen, chemically pure, 15 volumes. For internal use." This No. 4 is bland and unirritating, and at the same time seems to act quite as energetically upon the deposit as the other more irritating varieties. The flavor of this article is strongly suggestive of chlorine, and one is tempted to ask if chlorine and oxygen are not forms or combinations of still more primary, but as yet undiscovered, elements.

5. A specimen having the same appearance as No. 3, but bearing the following label: "Peroxide d'hydrogène, guarantie de capacité de 12 volumes, fabriqué par Charles Marchand." These bottles are wrapped in *red* paper.

6. An article from the same manufacturer as No. 5, but bearing a label showing it to be for internal use, thus: "Peroxide d'hydrogène, for internal use, guarantie de capacité de 12 volumes, fabriqué par Charles Marchand." These bottles are wrapped in *straw-colored* paper.

For both of these latter varieties, Nos. 5 and 6, Messrs. F. Alfred Reichardt & Co., 96 Liberty street, New York, are the agents.

The remarks applied to Nos. 3 and 4 are equally applicable to Nos. 5 and 6. There are, doubtless, many other varieties to be had equally as good as these already mentioned, but these just spoken of are the only ones that have come to this market.

Physicians should see to it that the proper variety of the peroxide is dispensed. It is not impossible that druggists might, through ignorance, carelessness or design, substitute the cheaper and more irritating article intended for external use for the blander and more expensive variety designed to be employed internally. The taste will be a fair guide in this matter, as the peroxide for external use is much more acid than the other.

GENERAL USES OF PEROXIDE OF HYDROGEN.

While possessing such active powers for good, it must not be forgotten that its employment is safe and its application harmless, and that it is equally efficacious in all forms of membranous or pseudo-membranous deposit, such, for example, as the aphtha of infants and the follicular sore throat so often confounded with diphtheria, while upon the living tissue it acts not at all. For these reasons this is, of all others, the remedy to place in the hands of the general public, to be used in all suspicious cases of throat trouble until the opinion and advice of a physician can be obtained. It is to be hoped that these suggestions will meet the approval and elicit the co-operation of physicians generally, and that they will instruct their patients in the use of peroxide of hydrogen in these cases, and recommend each family to be provided with a supply.

BACTERIA—THEIR REPRODUCTION AND DEVELOPMENT.

Whether or not bacteria are the active agents in diphtheritic poisoning, the fact of their presence and rapid multiplication in all such cases is well proved, and their disappearance as the disease is cured is also sufficiently well established. It is therefore not by any means unscientific to associate the disease with these organisms and to direct our efforts towards their destruction.

Bacteria increase by fission, that is to say, that one element divides itself into two, these two into four, these four into eight, and so on indefinitely, an hour—or, under favorable circumstances, even less time—being sometimes suffi-

cient for the completion of the process. Astonishing as it may seem, yet it has been computed that from one bacterium could come after twenty-four hours more than sixteen million descendants, and nearly three hundred billions in forty-eight hours. The bacterium termo, according to Cohn, would at the above rate of increase in twenty-four hours fill a cube one-thousandth of an inch across each side, and in forty-eight hours the mass would measure a pint; while if the process went on unchecked, five days would suffice to produce a quantity of bacteria equal in weight to the waters of the oceans of the world.

Of course nothing of this kind takes place for any considerable length of time, as the absence of the elements necessary to the reproduction of the micro-organism or the presence of unfavorable conditions check this rapid development, but such calculations are useful as showing the necessity that exists for prompt action in cases of diphtheria.

That this is no sensational story, each one can see who will take the trouble to make the calculation. It is a simple arithmetical question, the facts in the case being two which can be verified by any one sufficiently accomplished in the use of the microscope to measure a bacterium, and having sufficient patience to watch the process of its development, time and mode of multiplication.

The facts just alluded to are: 1. The organism taken as an example of the class *Bacterium termo* is one twenty-five thousandth (1-25,000) of an inch transversely, and about double that in length. 2. The rate of reproduction is once an hour.

MEDICAL USE OF PEROXIDE OF HYDROGEN.

A word as to the medical uses of peroxide of hydrogen may not be out of place here.

Peroxide of hydrogen was first introduced as a medicine by Dr. Richardson in 1858. Not even water itself is capable of the extensive application in medicine and surgery which can be made of this substance. It will disinfect the air, the secreta and excreta, supply oxygen for respiration, purify and cleanse the skin and hair; it can be applied with advantage to simple and specific sores and ulcers, to sinuses of various kinds, to pyogenic membranes in all situations, to lymphous, aphthous and pseudo-membranous deposits everywhere, and wherever bacterial life is to be destroyed internally and externally. In fact, in ways too numerous to mention, but suggested by a knowledge of its wonderful properties, this substance has during the past four years done me good service. The fact that it yields up its oxygen with the greatest ease, and at the same time leaves behind it no corrosive or irritating substance, nothing but pure water—this is the key to its proper employment in medicine.

USE IN MERCURIAL STOMATITIS.

Although the foregoing description of the extraordinary properties of this remarkable substance would naturally suggest its use in mercurial stomatitis, it may be well to draw special attention to its value in this connection. In many cases of mercurial salivation in which it has been used, its employment has been productive of most satisfactory results, especially as to the attendants and visitors to whom the fetor is always a most disagreeable symptom, as it also generally is to the patient. In many cases in which it has been employed this disgusting odor has been either entirely removed, or else it has been rendered so faint as to be almost imperceptible.

Pasteur, Koch, Buchner, Law, and others, have demonstrated that many diseases are the result of the presence of bacteria in the system, for which oxygen has been shown to be the natural antidote. In the treatment of all these diseases the introduction of oxygen into the system by every possible channel, by re-

spiration, by cutaneous absorption or by digestion, is indicated as a most scientific procedure, and to accomplish all this science has given us no other agent so convenient and universally applicable as peroxide of hydrogen.

EXPERIMENTS OF PASTEUR AND OTHERS.

The results obtained by Pasteur by cultivating the bacterial elements of disease are well known, but it is interesting to refer to them here for the purpose of analyzing somewhat their bearing upon a plausible explanation of the action of peroxide of hydrogen upon the deposit of diphtheria.

Pasteur found that when a virulent bacterial poison was cultivated in the presence of oxygen it lost much of its virulence, and the disease resulting from its inoculation was of a much milder character. This is precisely what takes place in the diphtheritic membrane. In a case treated with peroxide of hydrogen, the reproduction of such germs as are not destroyed takes place in the presence of oxygen, and the strength and activity of the poison is constantly lessened, until finally it ceases to act altogether.

It cannot be too often remarked that it would be well for physicians to keep this principle in view and act upon it in the treatment of all diseases of a bacterial origin, or indeed wherever bacteria are suspected of being in any way connected with the disease. The difficulty of procuring oxygen may heretofore have been a bar and a hindrance to its general employment, but as the peroxide of hydrogen furnishes the gas without the least trouble, and in its most active form, there is no longer any excuse why its use should not become general.

ADVANTAGES OF AN EARLY APPLICATION.

From a consideration of the action of peroxide of hydrogen upon the deposit of diphtheria, and the rapid reproduction of bacteria, it will at once be evident that the earlier the application of the remedy is adopted the better. While the membrane is thin and friable, the action of this reagent is thorough, quick and effective, the deposit often melting down before a spray of it like sugar in water, to be reproduced in a short time and again removed, until the denuded tissue beneath can be plainly seen free from this characteristic covering. In this way also the spread of the membrane is checked, and its limits often sharply circumscribed, until after some days, which it seems to me, is within two weeks, the germinating power of the membrane is conquered, the poison ceases to produce its kind, no more deposit takes place, the denuded tissues heal, and the cure is complete.

DANGER OF DELAYED APPLICATION.

If, unfortunately, the application of the peroxide is postponed until the membrane has thickened, then is the resisting power of the deposit increased, and the remedial action of the medicine proportionately diminished. Unable to penetrate the tough leathery membrane, the remedy acts only on the surface, while the interior of the mass continues its destructive progress to a fatal termination. This is equally true of the extensions of the deposit upward into the naves, or downward into the glottis, the latter being the most inaccessible and therefore the most fatal. Deposits in the vault of the pharynx and extensions into the naves can be attacked not only on the surface but also round the edges, by applications through the nostrils as well as through the mouth, and hence they are more amenable to treatment, although the sequel may be most serious. Extensions of the membrane towards the larynx are much more difficult to treat because less accessible, and the spread of the deposit downward impedes the respiration, adding another distressing and dangerous compli-

cation to the already too fatal disease. In justice then to the remedy, its use should be commenced and energetically pushed upon the very first appearance of the deposit. Used in any other way, or its application delayed, the employment of the peroxide may not be attended with the beneficial results anticipated. In this case the failure must be laid to the tardiness of its employment, and not to the powerlessness or inapplicability of the medicine.

Sometimes specimens of deposits will be met with which, although thin, almost translucent, yet are so dense and highly organized as to resist the action of the peroxide of hydrogen as well as much more powerful solvents. In such cases the physician is forced to rest content with thoroughly disinfecting the membrane and preventing its spread, counting himself lucky indeed if these indications are successfully accomplished.

FREQUENCY OF THE APPLICATION.

In view of the rapid reproduction of the bacteria already mentioned, it is evident that the applications should be no longer apart than an hour, but, as under favorable circumstances the propagation might take place in less time, it would be better to apply the peroxide every half hour; in fact, the oftener the better.

AS A DISINFECTANT.

Not the least important of the collateral effect of the use of a spray of peroxide of hydrogen, in cases of diphtheria, is the thorough disinfection of the sick chamber consequent upon its employment. When frequently and persistently used by inhalation, even the breath of the invalid will be found to be entirely free from odor, adding to this the fact that it is itself odorless and its use does not substitute one bad smell for another, but absolutely disinfects. If for no other reason, the continual use of the spray of peroxide of hydrogen in the chambers of persons suffering from infectious diseases should be insisted upon by physicians and officers of health

TO BE USED WITH GLASS VESSELS.

In view of the powerful reaction of peroxide of hydrogen, it is almost unnecessary to point out to the gentlemen for whom this article is intended, that as far as possible it should be brought in contact only with glass or such other substances as will not react upon it so as to cause its decomposition, and *it should also be kept at a low temperature when not absolutely in use.*

DOES NOT STOP DIGESTION.

It might be supposed that an agent so powerful to arrest fermentations, would also interfere with digestion, but experiments conducted in France point to the fact that while it arrests reactions dependent upon bacterial growth by the destruction of these micro-organisms, it does not interfere with the action of chemical ferments such as pepsin.

ACTION OF PEROXIDE OF HYDROGEN UPON DEAD OR DECAYING ANIMAL MATTER.

Peroxide of hydrogen acts very energetically upon dead and decaying animal matter, yielding up its oxygen and deodorizing the decaying tissue; likewise does it act rapidly upon all purulent discharges, the disengaged oxygen forming a foaming lather.

The apparent energy of its action is altogether out of proportion to its behavior towards the healthy tissue with which it comes in contact, for while it is boiling and bubbling and foaming upon an ulcerated surface one would be led

to imagine that it was acting as a caustic of great power, whereas in good truth, its presence produces no sensation whatever in the majority of instances.

INTERNAL ADMINISTRATIONS.

With a remedy of such variable strength as the one under consideration it is hardly possible to suggest a positive dose which shall be practically useful. It has been my custom to ascertain the strength of each sample used, then to dilute it as much as required, and to acquire the habit of regulating the dose by the flavor. Ten or fifteen drops of a fifteen volume solution properly diluted would be an average dose; this to be diluted with water until it is not so pungent as to be unpleasant.

TESTING.

To ascertain the strength of a solution of peroxide of hydrogen a normal solution of permanganate of potash is the best to employ, which, added to the solution under examination until discoloration ceases, will give the titre.

METHODS OF APPLICATION.

The peroxide may be brought into contact with the diseased surface by any and every means which the ingenuity of the medical attendant can suggest and his experience approve. To the mouth and throat it may be applied by a brush, probang or swab, soaked with an undiluted commercial solution of 12 or 15 volumes; likewise a spray of a solution of the same strength may be directed upon the part. Finally, a dilution of such a strength as not to be too disagreeable to the taste may be used as a mouth-wash and gargle. The posterior nares may be reached by the bent brush, the spray and the bent syringe through the mouth, and by means of the nasal douche, the syringe, the spray, or the swab through the nostrils.

Any and all ways are applicable to this remedy, depending only upon the predilections of the physician in favor of or against a particular method. Thus, some practitioners are diametrically opposed to the use of the brush or swab, while others rely upon it to a great extent, and some again think that a gargle is useless.

In the case of obstinate, fretful and resisting persons, a steam or other powerful continuous atomizer may be caused to direct a spray continually upon the mouth and nose of the patient, and the air inhaled is thus saturated with the peroxide. This, of course, applies to any case in which for any reason it is deemed unadvisable to disturb the patient. The hydrochloric acid present may be neutralized just before using, for which purpose a few drops of aqua ammonia, in proportion to the acidity of the solution, will suffice. It is not impossible, however, that the hydrated oxide of lime might be used for this purpose, and thus the solvent powers attributed to lime water be utilized in addition to these possessed by the peroxide of hydrogen. The value of this suggestion can only be told after considerable practical experience, but all the investigations heretofore made in this direction point to this as likely to prove a useful combination, and so also with a mixture of alcohol and peroxide of hydrogen, and also of lime water, alcohol, and peroxide of hydrogen. In making the latter compound it is best to have the peroxide very cold; add a little hydrated oxide of lime to neutralize the free acid, allowing a sufficient excess of lime for solution in the water of the peroxide, and, keeping it cold all the while, allow it to stand for twenty-four hours; then decant the clear fluid and add the quantity desired of alcohol, likewise previously cooled. The mixture is then kept cold until used. Lactic acid might, by experiment, be found to be a fit substitute for the hydrochloric acid in the commercial solution, and then the necessity for neutralization would cease

to exist, while the power of dissolving the membrane would still be preserved, the lactic acid being said to possess this property in an eminent degree.

APPLICATION ALONE OR IN CONNECTION WITH OTHER REMEDIES.

The true remedy for any disease is of course that one which, unaided by other medicines, can successfully cope with the malady. The nearer a remedial agent approaches this standard the more perfect it is. Attaining it, it becomes a specific; failing to reach this position it may still be a powerful aid to treatment. Extended trial and careful observation can alone determine to which category the medicine under consideration belongs; but it is most important that undoubted cases should as often as possible be treated by it unaided, and the results carefully noted, to the end that the profession may attain to a just appreciation of its value and power. For such purposes cases occurring in very young children are unsuitable, because it is impossible to watch the action of medicine without greatly annoying the patient, and thus perhaps aggravating the disease.

SELF-LIMITATION OF DIPHTHERIA.

It seems almost unavoidable that those persons who accept the theory of the bacterial origin of diphtheria should naturally conclude that the disease is self-limiting; the one belief almost flows as a consequence from the other. From a consideration of the method of reproduction and the rapidity of development of the bacteria, it is incontestable that millions of these bodies must hourly lose their power of reproduction, either through a want of suitable surroundings or through the direct action of some destructive agent or modifying circumstances. Were it otherwise, a few hours would suffice to cover the whole body with bacteria. What is true in the beginning of some of the bacteria is ultimately applicable perhaps to all of them, and when the last of them, through want of suitable soil or for some other reason outside medical interference, ceases to reproduce its kind, then is the disease at an end by self-limitation.

Of course the patient may die, and probably would do so, in a case left to itself, before the point of self-limitation would be reached; nevertheless, it is not difficult to understand how any disease of bacterial origin can, nay, it might almost be said must, be self-limiting.

SO-CALLED DIPHTHERITIC SORE THROAT.

A term has crept into use, both among the profession and the laity, than which nothing can be more misleading and unscientific, viz., diphtheritic sore throat. What is it? Is it the sore throat of diphtheria? Then call it what it is —diphtheria. Is it aphthous? Then say so. Is it follicular tonsillitis or ulceration? So state it. Is it undetermined? Say so; say so. Yes, let the physician say that the case before him is not then sufficiently marked to enable him to determine accurately. Let him say that an accurate diagnosis at the present stage of the disease is impossible. Doubtless it is useful, prudent, and perhaps profitable, to cast an anchor to windward, and to be able to say when the case is pronounced, "I told you so; I told you the case was diphtheria." Or, if the case is cured without difficulty, it may redound greatly to the credit of the practitioner to have cured so easily a case which the unskilled deceiver, by the similarity of sound, will at once classify as diphtheria. This may be profitable; it may be what is called in some localities cute, or canny, or cunning, or business, but it is nevertheless unprofessional, and unworthy of the dignity, straightforwardness and candor of the true physician. Many, no doubt, have used the term thoughtlessly and without intended wrong or deceit; to such it is only neces-

sary to point out the doubtful propriety of the word to induce them to discontinue its use.

THEORIES OF THE ORIGIN OF DIPHTHERIA.

There are two theories of the origin of diphtheria, one of which supposes the morbific element to be a gas, and the other looks upon a microbe as the cause of the disease. To the supporters of each of these theories the peroxide of hydrogen will be equally welcome, for it will change, alter, purify and disinfect the gas of the one, and will, with equal power, destroy the microbes of the other. Thus will it lend itself to both theories, while performing its mission regardless of either.

CONSTITUTIONAL REMEDIES.

The discussion of the question of presenting the development of the sequel of diphtheria leads up to that of the value of this class of medicines and the method of application in this disease.

With these therapeutic agents as a class it is not the object of this paper to deal; therefore any general remarks made upon this subject are intended only to apply to peroxide of hydrogen.

It may be safely assumed that the diphtheritic poison acts upon the nerve centres through the medium of the circulation; were it otherwise, and the nerve irritation was conveyed only by nervous impulses from the peripheral nerves to the nerve centres, then would the toxic symptoms manifest themselves during the progress of the disease and would be likely to cease when the local irritant was removed. Local treatment would then be all sufficient, for there certainly should be no progressively increasing symptom after the local irritation has ceased; but the opposite is really the case. For days after the local symptoms have all disappeared the evidences of pathological changes in the nerve centres begin to show themselves, as if the poison circulating in the system had been gradually but surely doing its work, without any external manifestation whatever.

Turning naturally in this extremity to the use of constitutional remedies as an antidote to the poison, it is not unimportant to investigate the avenues by which the medicine may find its way into the system.

The absorption of chemical reagents through the alimentary canal and through the skin has been sufficiently demonstrated not to require comment, gases being absorbed in common with other substances; it is, therefore, legitimate to administer the peroxide of hydrogen internally, or to apply it as a lotion to the skin. There remains, then, one more channel through which the remedy can act upon the circulation, viz., the lungs, which at first sight would seem to present the best means of acting directly upon the blood.

In view of the well-known pathological results produced by the inhalation of dust of various kinds and of gases, it would scarcely be supposed that the power of introducing medicines into the lungs and so into the circulation, by saturating the inspired air with the remedy or suspending the medicine therein, would be called into question. Some results obtained by a recent experimenter would seem to throw a doubt upon the value of the lungs as a channel of medication.

"On the Comparative Inutility of Antiseptic Inhalation as at present practised in Phthisis and other Diseases of the Lungs."—*Lancet*, May 5th, 1883.

"On Inhalation, more particularly Antiseptic Inhalation, in Diseases of the Lungs."—*British Medical Journal*, Nov. 3, 1883. By ARTHUR HILL HASSALL, M.D.

The author experimented with the "oral and oro-nasal inhalers," and with

sprays and vapors, and the conclusions at which he arrives are most unfavorable to medication by inhalation, as he finds that but minute quantities of the medicine reach the lungs when it is administered in this way.

The results of these experiments can in no way apply to peroxide of hydrogen, the active agent in which is a gas, a constituent element of the atmosphere, and which once assuming the gaseous state cannot again be condensed. From these considerations and from the results obtained by Professor Binz, as well as from numerous experiments that have been made on the effects of the inhalation of gases and the vapors of volatile fluids, such as ether, &c., it must be self-evident that the inhalation of peroxide of hydrogen offers every prospect of being a powerful means of producing upon the circulation the beneficial effects of the remedy.

It is not impossible that the active oxygen contained in the peroxide of hydrogen, reaching the blood promptly through the lungs, may reoxidize the red corpuscles already deprived of their oxygen by the micrococci or other microscopic organisms which is said by some observers to attack them in this disease, while at the same time the parasite itself may be destroyed.

COMBINATIONS WITH OTHER MEDICINES.

From the preceding remarks it will be seen that there are many local remedies whose action and that of peroxide of hydrogen might usefully supplement each other; such for example as pepsin and papyotin, and if *naphthol* should prove not to be chemically incompatible the many valuable qualities claimed for it, its powerful antiseptic properties, its tastelessness and odorlessness may render it a useful adjunct.

CASES.

It was not originally intended to burden this paper with a report of cases in many of which the use of peroxide of hydrogen was only supplementary to the employment of other remedies, or as in others the attack was so mild and yielded so readily to the treatment that its exact nature was not critically diagnosed, but there is one case which fulfils all the requirements of a test case, in that there is indisputable evidence that it was diphtheria outside of the mere assertion of the observer. It was an attack of extraordinary violence, the virulence of the poison was most marked, and the case was treated with the peroxide of hydrogen alone. The patient was a young lady of seventeen years of age, in whom there was a tendency to tonsillar and pharyngeal congestion. The attack of diphtheria was preceded by one of tonsillitis of a mild form. The first symptoms were nasal and the first visible membrane was upon the left tonsil, which was entirely covered within twenty-four hours with a patch of membrane about three-quarters of an inch in diameter. At this time the patient could not breathe through the nose. The application of the peroxide now commenced in earnest, and the assault was made simultaneously from all quarters—the brush, spray, gargle and douche being all called into requisition, so that the parts may be said to have been constantly bathed with the remedy. Within a week, patches of membrane, some of which were not less than two square inches in area were detached from the vault of the pharynx. Every trace of deposit had disappeared, and the case was discharged, and in a day or two she returned to her home in the country. In ten days her family and her attending physician wrote that she was attacked with a partial paralysis, which soon became general and total with severe local pains, and in another week she died, just seventeen days after the disappearance of the diphtheritic deposit. The evidences of the genuineness of this case, in addition to and confirmatory of the diagnosis of the attending physician, are:

1st, the membrane cast off; and 2nd, the succeeding paralysis, the extent of the latter, and its fatal termination demonstrating the violence of the diphtheritic poisoning.

SOME OF THE LESSONS TAUGHT AND QUESTIONS SUGGESTED BY A STUDY OF THE PRECEDING CASE.

Except in violence, there was in the case just narrated nothing remarkable; yet its history, as well as that of hundreds of others, shows that there is something else to be done than to remove the membrane and prevent its reproduction. This latter, as will be seen by the narrative, was successfully accomplished in eight days, and apparently there was nothing more to do; but the destructive process was busily at work at the new centres, as shown by the extent of the paralysis suddenly appearing in ten days, followed by death in the succeeding week.

The most interesting question which here suggests itself is as to the possibility by prophylaxis of preventing this common sequela of diphtheria. Granting that it would be advisable to commence an appropriate treatment early, the very important question to be solved in this connection is the character of medicines to be used. These and other kindred questions naturally arise, but a discussion of them is somewhat foreign to this paper, which was intended only to draw attention to the value of peroxide of hydrogen in the treatment of diphtheria; nevertheless, one question will obtrude itself—What is to be done to anticipate and prevent the occurrence of paralysis as a sequela of diphtheria?

CONCLUSION.

Of course it is not intended that the use of peroxide of hydrogen should exclude that of other remedial agents, both local and constitutional. It may be able to combat the disease alone and unaided. It has done so already and may do so again, but it may be that after its merit has been tried by experience, that test which alone is of any value, it may be proved to be only useful as an adjunct, or it may be considered as useless. Be that as it may, the duty of presenting it to the profession is no less imperative, and hence this paper.

ADDENDUM. MERCURY AND SILVER.

In a disease in which the percentage of failures is so great as is the case in diphtheria, it is legitimate to recur again to a remedy which, although equally as unsuccessful as others of the constitutional class, is yet possessed of such extraordinary properties that even a change in the method of its exhibition might be productive of valuable results, if not in the treatment of the disease itself, perhaps in the prevention of its consequences. Salts of mercury and of silver occupy the highest positions among the antiseptics, and it is not unreasonable to suppose that these two medicines might exercise a beneficial influence, especially when their effects on chronic inflammation of the spinal cord and of the nervous centres are taken into consideration; but to be of any value the action must be prompt, hence the remedy should be introduced through all available channels, choosing more particularly those which will least disturb the digestive functions of the patient. Small doses of a dilute solution of biniodide of mercury (*vide ante*) seem sometimes to be of local benefit, but to rapidly produce its constitutional effects is of vast importance if it is intended to fairly and thoroughly test the power it will exert, not upon diphtheria itself alone, but also upon its sequelæ.

THE METHODS OF ADMINISTRATION

Are—1, buccal; 2, gastric; 3, rectal; 4, hypodermic; 5, cutaneous; 6, inspiratory.

1. *Buccal.*—In this method the agent is rubbed upon the gums and mucous membrane of the mouth, and so employed hastens the production of ptyalism; but in this case it is supposed, and not unreasonably, that the resulting salivation is evidence of a local irritation rather than of a constitutional effect.

2. *Gastric.*—The objections to be urged against the administration of the medicine in this way are the slowness of its action in some individuals, and the danger of deranging the digestive functions. Keeping this in view, it would be well to use this portal in connection with other means of ingress, more especially as a dilute solution of biniodide of mercury kept flowing as constantly as possible over the throat would lend to its action as an internal medication its no less important quality of a powerful asepsis.

3. *Rectal.*—By introduction into the rectum the constitutional effects of mercury can be considerably hastened. For use in this manner mercurial ointment and the oleate of mercury are perhaps the best preparations.

4. *Hypodermic.*—To this method there is one great drawback, viz., the formation of abscesses at the seat of injection. Many salts of mercury have been suggested for employment in this manner, which is one of the best for producing rapidly the effects desired.

5. *Cutaneous.*—Naturally this method divides itself into two heads, according to the condition or state in which the remedy exists when applied to the skin: (*A*) When a fluid or semi-solid is laid on the surface; (*B*) when the medicine in a state of vapor is brought in contact with the skin.

(*a*) For this purpose mercurial ointment and the oleates of mercury are usually recommended to be rubbed into the skin at short intervals, the axilla, the groins and the inside of the thighs being the localities usually chosen.

(*b*) For the mercurial bath any of the sublimable combinations of mercury, as for example, cinnabar or vermilion, or calomel, or the crude metal its f may be chosen, certain preparations affecting particular individuals more readily than others, but this difference cannot be foreseen. Of all the means by which the constitutional effects of the medicines can be obtained, this s probably the quickest, the best and the one at the same time which will produce the least constitutional disturbance.

6. *Inspiratory or Pulmonic.*—Intimately connected with the application of a mercurial vapor to the skin is the inhalation of it into the lungs; for this purpose the vapor of metallic mercury is best suited, being least irritating in its effects. Unless with a very perfect apparatus, it is very difficult in giving a mercurial vapor bath to guard against the inhalation of a portion of it; but, in view of the experiments of Dr. Hassell (*vide ante*), it becomes an open question whether any of the medicine finds its way into the lungs or not. From a full consideration of the whole subject, the vapor bath seems to be the most rapid and reliable means of producing the constitutional effects of this medicine, two or three days being generally sufficient to attain that result, and the saturation of the system with the remedy is thorough, If it is desired to still further hasten the action of the drug, any or all of the other methods mentioned may be chosen according to the judgment of the practitioner.

A very high estimate is placed by many practitioners upon muriated tincture of iron as a constitutional antidote to the effects of the diphtheritic poison, especially when administered in frequently-repeated doses. With this treatment it is quite possible to combine the antiseptic action of the salts of mercury by adding to each dose a minute quantity of the mercuric chloride, which it will be remembered is soluble in sixteen parts of water, while the strength required as an antiseptic solution is only one part in several thousands. The minute doses of mercury so presented will easily be absorbed, and may materially assist in producing the gentle alterative effect of the drug, which is one of the results desired.

ARTICLE III.—THE CAUSES AND RESULTS OF PULMONARY HÆMORRHAGE, WITH REMARKS ON TREATMENT. By REGINALD E. THOMPSON, M.D., Cantab., Fellow of the Royal College of Physicians; Senior Assistant Physician and Pathologist to the Hospital for Consumption and Diseases of the Chest, Brompton. With illustrations. London: Smith, Elder & Co. A Critique; by EPHRAIM CUTTER, M.D., New York.

Probably no event in the domestic circle is filled with so much horror as when a death occurs from pulmonary hæmorrhage. I have seen the stoutest minds quail under this event, even though its possibility had been foreshadowed. When it occurs in not fatal cases it is far from being a pleasant occurrence to all concerned. Conventionally it is regarded as a sure sign of consumption, in which the bleeding is not regarded as a result, but as a cause.

This idea is as old as Hippocrates. Laennec did not believe tubercle was produced by blood, but regarded tubercle as the primary stage of consumption. Louis followed Laennec, Fennot followed Hippocrates. English writers have generally followed Laennec. Graves gives cases of pulmonary apoplexy dying without tubercle; he thinks blood may produce a tendency to consumption, but is not a necessary cause of it.

Niemeyer's views are quoted, that bleeding may precede the development of consumption as its cause—leading to chronic inflammation and destruction of the lungs—*i. e.*, that caseous pneumonia would result, but this is not generally adopted in Germany, and we come back to the doctrine of Laennec. In this country, the United States, the latter views also prevail. Dr. Thompson, to solve the question "What is the relation of blood-spitting to consumption," considers: 1. The source of this bleeding. 2. The pathology. 3. Clinicology. Phthisis he defines to be a destru tive disease terminating a variety of pulmonal diseases arising in inflammation and irritation—a common result to which the diseases tend to converge, which they may ultimately assume, and in which they lose their initial peculiarities. Tubercle is the nodular form known to Laennec as grey tubercle; though in many cases it results from infection by septic matter from a cavity drawn through the bronchial tubes into the lobules; not that the bronchial tubes are the only carriers of septic matters, but that their agency has been overlooked. After giving a general account of the anatomy of the arrangement and distribution of the lung bloodvessels, he then discourses somewhat on Laennec's position as to the source of the hæmorrhages, but feels forced to conclude that when the rupture of bloodvessels involves a considerable amount of bleeding, the pulmonary vessels are the chief source of the blood.

PATHOGENY OF PULMONARY HÆMORRHAGES.

1. Alteration of the circulation of the lungs. 2. Disease of vascular walls. 3. Alteration of the blood. Congestion may be caused by acceleration of the heart's action, nervous action, heat, cold, shock, &c.; inhalation of irritating air or fluids; rupturing a vessel after the strain of congestion. Congestion may occur from feebleness of the heart's action, due to fatty degeneration, or the want of the heart keeping pace in its development with the rest of the body. Debility is thus a cause of hæmorrhage. Mediastinal tumors, carcinoma, gangrene, lymphadenoma, aneurism, pneumonia, also are causes.

The connection of cancer with hæmoptysis has been considered by Welsh. Brown induration caused by mitral imperfection, congestion of bronchial tubes in bronchitis, and emphysema frequently tend tobleeding. Thinks it very doubtful that profuse bleeding can come from the bronchial capillaries alone, and Ruehle agrees with him.

CONDITION AFFECTING THE BRONCHIAL WALLS. EROSION. TUBERCULOUS FORM. SYPHILITIC FORM. AMYLOID FORM. DR. THOMPSON'S THEORY OF PROGRESSIVE LUNG INFECTION.

This is the most common-sense explanation we have met with in medical literature, and the following is a condensed statement of the theory:

"The initial disease may, as I have already intimated, start from a congestive catarrh; that is to say, there is an inflammatory condition in which the blood-vessels and the tissue are involved, the circulation in the upper lobe being more feeble than in other parts of the lung, the function of this lobe being less active, the air cells being of large capacity, and, lastly, the respiration being due to a secondary current, the result of the expansion and compression of the lower part of the lung, stasis speedily results, and the exudation is profuse and liquid; a condition of softening soon follows, which may sometimes be seen in early conditions, in which the whole of the upper lobe becomes so soft and friable as to give way easily under the finger, and forms small cavities which show no thickening in the neighborhood, and discharge from their softened sides a sanious fluid, consisting of débris of tissues, cells, bloodvessels, and blood.

"The cavity continues to form and enlarge by the constant liquefaction and ulceration of its walls, and the secretion continues throughout to be stained with blood. The conditions under which such a coating forms lie at the root of the ætiology of phthisis."

The author does not allude to the softening of the bloodvessels caused by fatty generation of the muscular coats, thus weakening the tubes so that the blood pressure needed for life purposes ruptures them, as seen in the pulmonal and intestinal hæmorrhages of cases of Bright's disease, two fatal instances of which have recently come to the notice of the reviewer.

After discussing the course of phthisis, Dr. T. shows the relations of aneurisms (or "aneurysms," as he spells it) in a clear manner. He says the best mode of detecting them after death is, "the lungs should be both removed, together with the trachea, and the air passages first carefully examined, to see from which side the hæmorrhage has proceeded. Frequently this cannot be told by the condition of the clot, inasmuch as the largest amount of clot is sometimes found in the most active lung. If a large cavity occupies any portion of the lung, it must be carefully searched, as the aneurism is generally found in the primary cavity. Palpation should then be made carefully over the surface of the lung, and any nodular swelling should be cut across. I have thus succeeded in detecting very small aneurisms, which would otherwise have been probably missed. It is necessary to remember that aneurisms are often multiple—as many as four have been found in one lung—a condition recorded in Rassmüssen's paper on the subject. If the aneurism is not detected in the cavities, the bronchial tubes must then be carefully examined." Aneurisms no bigger than a mustard seed have been found in a dilated bronchial tube. Thombosis and Embolism are causes which lead to bleeding from the lungs. He regards Thombosis as the result of a contiguous secreting cavity, the resultant secretion soaking into and producing inflammation of the arterial walls. It also has a tendency to occur by a similar process in those cases in which there is considerable feebleness of vitality, in consequence of which circulation is retarded and secretions which ought to be expectorated tend to accumulate by gravitation towards the inferior parts of the lung.

From this view of Thombosis, which make its cause to be extra vascular, the reviewer invites attention to the intra-vascular causes which any one with a good objective can find in the blood of consumptives. These are: (1) Enlarged white corpuscles distended with ento-phytal vegetations. (2) Masses of vinegar yeast. (3) Massed white corpuscles. (4) Skeins and masses of fibrin filament. (5) Sticky and adhesive red corpuscles, and sometimes (6) crystals of

cystine uric acid, oxalate of lime, &c. These plug up the vessels of the lungs, interfere with nutrition by mechanical effects, and by the chemical effects of the acetic acid produced by the vinegar yeast. The process of disintegration is analogous to the breaking up of vegetable tissue by the fungi developing chemical substances and growing in their interstitial substance. Tubercle is a result of an accident, the main characteristic of which is the infiltration or cell growths into the areolar tissue, and the consequent compression and obliteration of the vessels. The primary trouble is the vinegar yeast in the blood.

P. 32, Dr. T. says : "The connection between pulmonary hæmorrhage and tubercle stands on no pathological proof, and it is impossible to examine many tubercular lungs without coming to the conclusion *that tubercle instead of fostering bleeding actually prevents and discourages it.* Both lungs may be stuffed closely with tubercle and no bleeding be detected."

"Tubercle may in its formation compress and stop a portion of a small pulmonary vein (it must be a small one), nipping it and obstructing the current in the capillaries; in this way, the pulmonary vein becoming blocked, it is possible that a slight capillary hæmorrhage might follow, although I have seen no instance of this actual rupture, and the usual result of this blocking would seem to be a simple stasis resulting in streaks of black pigment. . . . .

"After some experience in the examination of tubercular and non-tubercular lungs, I must express my opinion that bleeding from the lungs appears to stand in no relation to the amount of tubercle, and is independent of it; but the presence of tubercle in large quantities, whether it be in the scrofulous lungs or in any other form, would suggest to me the probability that the patient had not been subject to any copious attacks of bleeding during the time of the tubercular process.

"Nor does the theory of tubercular ulceration, as causative of bleeding, stand in any other position, inasmuch as the liquefaction results from a necrosis due to absence of blood-supply; hence the contents of a strictly tubercular cavity are not found mixed with blood; and it cannot be conceded that such ulceration, when of a tubercular character, has encountered any bloodvessels which could bleed. Occasionally ulceration of a non-tubercular kind is seen excavating tissue from around a tubercle, but it is non-tubercular, inasmuch as the tubercle may remain like an islet in the middle. From all the evidence I have been able to obtain on this point, tubercle seems to have been very unjustly accredited with hæmorrhage, nor has any argument or evidence been brought forward to show its connection with those copious bleedings which are so often brought under notice."

It is quite evident that no bloodvessel in the lungs will bleed any more than a water pipe will leak unless there is some solution of continuity. There must be a weakening of the walls somewhere that cannot resist the pressure; but if the weak part is soldered up by tubercular masses and infiltration there is no hæmorrhage, even though immense pulmonal cavities are found. He then proceeds to describe the conditions which establish a proclivity to bleeding, noticing especially that peculiar tendency to general bleeding called "hæmophilia," a congenital disease, in which pulmonal hæmorrhage occurs in 15 out of 256 cases. It would seem that this is a hereditary disease, due to structural imperfection of the vascular walls. Alcoholic hæmorrhage, plethora, scurvy, purpura and eruptive fevers are alluded to.

Inhaled Blood forms one of the most interesting features in the volume. "Where a profuse bleeding has been the cause of death, blood is found in several localities, even in the lung opposite to that in which the fatal rupture has taken place."

A case is given where an aneurism opened into the left bronchia—man lived one hour, and the whole right lung was gorged with blood by insufflation. Another with aneurism in upper lobe of right lung, and blood was found in the left bronchia. A third case where the source of hæmorrhage was in the upper

lobe left, and the periphery of right lung contained flecks of black blood. Two excellent colored figures are given of the pathological appearances.

The author concludes, justly, we think: "It is evident, then, that the presence of blood in the air passages is no proof that the blood originated from them; it simply points to the fact that the blood landed in them when the powers of life were failing, or by the spasmodic gasps made during the dyspnœa. The same insufflation occurs when the patient recovers. In such cases the blood does not putrify, but clots and passes through the phases of absorption, decoloration, fibrination; the outlying portions of the blood disappear and the central nodules become hard and white, of different sizes, color varying from a light red to an ivory white, mottled with old blood pigment. Plate 11 is a graphic illustration of this text. Those who have studied the morphology of the blood for diagnosis and treatment of disease, and have noted the blue, red, green, brown and yellow pigments and crystaline bodies, are at no loss to account for the pigment matter in the lungs.

Dr. Thompson thinks that pure blood has little, if any, irritating effect on tissue, and if irritation is shown it must be due to some accidental quality of the blood or some poisonous addition to it. He says, p. 52, "I have seen no instance to convince me that the extravasated blood of a tuberculous patient can cause tubercle." He regards the black pigment which is found almost always in the lungs of adults as an indication of blood, though sometimes due to the inhalation of carbon. On the other hand, blood clots may be present without pigment. In chapter V. we have an interesting account of how cavities are formed by these changes set up in and in connection with fibrinous clots in the lungs. These cavities are usually lined with thickened tissue and remains of fibrinous matter, and their position and isolation help to their diagnosis. The heredity of hæmorrhage is given a full chapter. The theory of special fragility of vessels, which was put forth by Niemeyer, our author thinks, has met with most undeserved neglect. The author is right.

Lately a case of so-called consumption came into the hands of the writer. There was cough, pulmonal hæmorrhage, gravel of the lungs and physical chest signs of organic disease. Yet the urine was $\frac{2}{3}$ albuminous, with casts, and epithelia loaded with fat. The blood did not present the morphology of consumptive blood, but of anæmia.

The gentlemen who saw the case before rested satisfied with the chest examination, and did not examine the urine. Now, here was a case of general fatty infiltration and degeneration in which the bloodvessels of the lungs were weakened and ruptured simply from weakness! Food is the remedy for such structural lesions of fatty degeneration. The physical causes of hæmorrhage, as strain, exertion, lifting, blowing wind instruments, alcohol, heat, are the subjects of chapter VII. They would well have been included in the previous chapter. As to alcoholism, we have supposed that the general fatty degeneration which is found as a result would be a sufficient cause for weakening the bloodvessels, so that they would not bear the increased pressure of the heart's impulse when excited by heat and the different forms of exertion. When the vascular tissues are rotten, they must yield to normal blood pressure. The clinical aspects and symptoms of blood-spitting and the physical signs are treated at length and with force.

He says, "the first stage of hæmorrhage is detected by the presence of fine crepitant râles, due to the insufflation of blood into the alveoli. These rales may continue moist for a considerable period of the time—for weeks, sometimes for two or three months; they gradually lose their liquid character, becoming more viscid and scanty, and at last only a click can be heard after a cough. The blood must then be considered as entering upon the second stage —consolidation due to clotting. The outlying portions lose their blood by absorption, and the central parts become closely packed by constant pressure and interstitial contraction." The physical chest signs are these: Dulness

of percussion note, increased intensity in the transmitted sounds, with heightened pitch, imperfect expansion, and hesitating delivery of breath sounds. These signs are very local. They are detected in from two to four months after the hæmorrhage. Subsequently, considerable retraction of the surface of chest wall, especially with the intercostal spaces, becomes a marked sign. (This chest contraction, we think, is due to emaciation, and also to the partial local paralysis of the parts from inanition, weakness and contraction from atmospheric pressure in inspiratory efforts to breathe.) Finally, the usual signs of softening and excavation are heard during the last stage; the only special characteristic in these cases being the high-pitched sounds, indicative of hard solid tissues in the vicinity.

"The physical signs here enumerated not only belong solely to conditions of hæmorrhage, but they remove to another category those signs, dulness and percussion, imperfect expansion, retraction of lung tissue and chest wall, which have often been taken as signs of incipient phthisis; the ground is thus cut away from under the feet of those who ascribe initial or early hæmorrhage to the presence of tubercle in the lungs. Those who are accustomed to investigate the sign of tubercle, and have the opportunity of verifying the diagnosis after death or establishing the physical signs during life with the post mortem conditions, must be fully aware of the very great difficulty of detecting tubercle, even in large quantities, by the physical signs, still less by any distinct dulness of percussion note." From a consideration of the physical signs here given, and the order in which they occur, it is difficult to see what interpretation can be given to them other than that which is derived from pathological evidence.

"They are not like those of any ordinary form of phthisis, and they occur, indeed, in exactly a reverse order; for whereas they begin with a fine liquid sound and pass through various stages of diminished moisture and increased viscidity to the signs of a hard nodular solid, occupying the lung in certain localities, the sounds of phthisis are generally supposed to begin from the sounds of hard solid tissue and to pass on to the liquid sounds of breaking down and subsequent excavation.

"Those who have watched cases of initial hæmorrhage must be well aware that the physical signs here given are correct, and the hard nodule of the lung may be detected unaltered for years after the occurrence of the hæmorrhage."

"To the misinterpretation of the true nature of this hard tissue sound in many cases of hæmorrhage is due, I believe, the generally received opinion that tubercle is the cause of hæmorrhage; when it is once recognized that hæmorrhage causes the solid tissue instead of being caused by it, there will be a considerable alteration of opinion as regards the corelation of tubercle and hæmorrhage."

"In relation to the frequency of hæmoptysis in phthisis, out of 5,000 cases of the latter 45 per cent. had decided hæmorrhage. Louis had 67 per cent.; Dr. Pollock, 58.4 per cent.; Dr. Cotton, 53 per cent.; Brompton Hospital, 63 per cent. Pollock found in 351 cases of proper hæmoptysis 267 were males. Second stage of phthisis presents most cases of bleeding. Remedies recommended: Gallic acid, mineral acids, turpentine, ergot. We miss the fluid extract of Hamamelis, given by the mouth; of liquor ferri, persulphatis, given by inhala tion; of alcohol to the chest, all of which are excellent remedies—but the best remedy is to arrest the development of the disease by killing out the vinegar yeast from the system by judicious feeding.

An admirable summary closes the volume. In the opinion of the writer the author has made out a good case, and deserves a fair hearing. His work is judiciously expressed, and its tone of respect towards others is seen to be that of a man who has thoroughly studied his subject, is willing to be taught, and yet cherishes his own ideas because they are the outcome of long and familiar acquaintance with facts. The book certainly deserves a place in all medical libraries, and reflects great credit on the profession because it is, in my opinion, the best on the subject extant.

RÉSUMÉ OF ORIGINAL ARTICLES

IN OTHER JOURNALS.

THE INOCULABILITY OF CANCER AND PROFESSOR SAPPEY'S THEORY OF ENCEPHALOID. New Orleans *Medical and Surgical Journal.*

Is cancer inoculable? is a question that has always been full of interest to the profession, and it is not surprising that this feeling should have been intensified lately, when so eminent a teacher as Professor T. Gaillard Thomas suddenly allowed the full weight of his authority to kindle into greater activity the fears already entertained of so dreaded a contingency. His subsequent retraction of opinion and the investigations set on foot by Dr. Paul Mundé—which prove the exceeding rarity, if not impossibility, of cancerous inoculation, through sexual congress, at least—have greatly calmed the general alarm and tended to re-establish our former composure on the subject.

Heretofore, all have regarded as carcinomatous "tumors atypically constructed, and whose physiological type or derivatives consist of true epithelium." This is now the most popular doctrine, and that taught by such leaders as Billroth, Waldeyer, Rudnew, Rindfleisch, Klibs, etc., though of course it is opposed by rival theorists—the connective tissue party, formerly headed by Rokitansky, and at present by the no less formidable Virchow and redoubtable Stricker. M. Sappey differs from all these writers on the pathogenesis of carcimona—encephaloid, at least—in claiming as its prime factor a hitherto unsuspected body, the white corpuscle. According to Sappey, encephaloid is purely local in its incipiency, circumscribed to a very limited area of a lymph channel of the organ or tissue in which it begins. Under the influence of some *unknown* cause, the morphological elements (lymph corpuscles, white cells) contained within the lymphatics in the affected part undergo a retrogressive, degenerative, change. This modification is apparently of a fatty character. At first the lymph corpuscles alone furnish sufficient material to the primarily degenerated focus, but afterwards the mass is supplied by white cells from the adjacent capillaries. As soon as a healthy white cell is brought in contact with a degenerated one, it is affected in identically the same manner—it degenerates, loses its irritability, its nutritive and migratory capacity, and finally, is struck with sterility. It thus becomes a fixed constituent of the growing mass, which, like the individual corpuscles, would simply die if it only received a limited supply of cells—an end that is not attained on account of the fresh numbers that are being heaped on the mass from the myriads of cells continually brought to it by the nutrient vessels.

In his paper, which was recently read before the French Academy (*Gazette des Hopitaux*), he reports the results of four observations on the state of blood in this condition. He found that the blood withdrawn from the veins of an encephaloid contained large quantities of characteristically degenerated corpuscles; and in his last case, one of encephaloid involving the tongue and neck, the whole mass of the blood presented the characteristic appearance, microscopically speaking, of general cancerous infection, *i. e.*, fatty degeneration of the leucocytes.

Here, consistently with his views, he says: "In order to explain the constitutional character of the malady, the *cancerous virus* was ima-

gined. Under this name a principle altogether fictitious, inaccesible and undefinable, has been disignated. The observations that have just preceded demonstrate that this mythical *virus* is now amply represented by the degenerated white corpuscles which the blood continually carries away from the cancerous focus. Therefore, the cancerous virus is not an abstract *something* intended to connect the local with the general affection—it is in reality a formed element, dispersed throughout the economy and ready to react with contaminating danger upon any similar corpuscle with which it may be brought in contact." According to Sappey, a single degenerated corpuscle is a miniature cancer in itself, which has the power of transforming a healthy corpuscle, through some unknown catalytic or fermentative quality, into a similarly degenerate body. Carcinoma, at least encephaloid, would thus virtually become inoculable, like syphilis and vaccinia.

Unfortunately for Dr. Sappey, his theory and observations militate against experiment and sound experience. The most eminent histologists (and certainly those cited above are respectable) would be hardly willing to admit Dr. Sappey's view that the bulk of encephaloid cancer is constituted by a mass of degenerated white corpuscles. It is certainly a fact that the real nature of the cancer cell has not been fully ascertained, as the diversity of opinion abundantly proves; yet, Professor Sappey's four observations are far from sufficient to demolish or affect the positions held on the subject.

Neither is one ready to admit that the cancer cell which he describes as existing in abundance in the cancerous cachexia (which it causes) is endowed with a fermentative power, so to say, by which it is capable of reducing similar corpuscles to its own condition; it is true that diffuse carcinosis or cancerous metastasis could be easily explained by it, yet if it were true, simple cancer juice ought to be an eminently inoculable fluid, an opinion which the experiments of Dupuytren, Vogel, Billroth, and more lately those of Wile, would certainly contradict. It is true that other experimenters, as Langenbeck, Weber and Folin, claim to have obtained different results, and to have succeeded in reproducing secondary cancerous tumors identical with the neoplasm from which the juices were taken. If the alleged results are correctly reported in the light of other observations, there must have been in the juices used, as suggested by Formad, some cells belonging to tumors from which the liquid contents for injection had been taken (Agnew).

Furthermore, the opinion of pathologists at present is that carcinomatous cells increase by multiplication, endogenous growth, never by accretion or addition, as M. Sappey would teach. The cancer cell, under the light of the most advanced histology, is a living, active and reproductive body, and it is only through this property that it has the power to travel along the lymphatic tract to a neighboring ganglion, which it attacks and infiltrates only through its active *reproductive* powers—but for M. Sappey, it is otherwise—a barren, sterile body, which is solely dependent upon a steady and continuous reinforcement of like individuals from that inexhaustible source, the blood, in order to sustain its attacks and to perform its ravages. In fact, each one of these cells, says M. Sappey, runs through four epochs in the course of its existence; each has a period of invasion, a period of growth and development, a period of decline, and very probably one of dissolution. The first two epochs are doubtless passed in the blood plasma; the third in the hard portions of the tumor, and the last in the circulating apparatus, or in the substance of the tumor. When softening and ulceration begin, the oldest

cells are first destroyed, and those which sojourn longer in the circulation undergo a destructive reduction until they disappear *in toto*, making it in this way possible for an encephaloid to become (theoretically) curable.

If one were to seek the path of truth through the tortuous maze of conflicting opinions, he would undoubtedly find himself lost; it is a satisfaction that at least one criterion is left for guidance in the teachings of experience, and these, as Mundé's last investigations happily teach, are emphatically opposed to the doctrine of cancerous inoculability.

The History of the Operation of Paracentesis Pericardii was briefly related from its first suggestion by Riolan in 1649. (*British Med. Jour., Med. Chron.*) Its practical introduction was traced to Dr. Rovers, of Barcelona, who operated successfully in two cases in 1819. In 1841 there was a remarkable series of cases in an outbreak of scurvy in Russia, in which the pericardial effusion was composed mostly of blood. Nine were operated upon and six recovered. In 1854 Trousseau's essay was published upon some cases of his own and of M. Aran, which revived interest in the subject. In 1866, Dr. Clifford Allbutt introduced the operation to this country, and it was performed by Mr. Wheelhouse and Mr. Teale. Rosenstein, in 1871, made a great practical advance in operating by free incision with drainage. A complete list of the recorded cases up to date was given in a tabular form, with the addition of several cases hitherto unpublished, making seventy-nine cases in all. Of these, fifty-six had been in males, for which no reason could be assigned, and they had been uniformly distributed over the early ages of life. Phthisis and pleurisy had been associated with twenty-three cases, rheumatism with eleven, scurvy with nine, general dropsy with five, injury with three; in twelve cases there had been no associated disease. The fluid had been in fifty-eight cases serous, in twelve purulent, in nine bloody. The amount evacuated had been in forty-six cases less, in thirty-three cases more, than a pint. It was not rare to evacuate as much as two or three pints. The largest quantities had been found in the scorbutic cases, and from one of these about ten pints had been evacuated. It had been sometimes observed that great relief was given by the withdrawal of one or two ounces, and that this had been followed by the absorption of the rest of the fluid. Dieulafoy's careful experiments had led to the selection of a place in the fifth left space, about an inch from the sternum, as the safest point for puncture. The following conclusions were drawn: 1. Paracentesis pericardii is not only justifiable, but an operation which may be safely undertaken with ordinary precaution, for only one case is recorded in which the operation was in itself fatal, and with this exception all the patients were greatly relieved by the removal even of small amounts of fluid, and many recovered completely who would probably have died had the operation not been performed. 2. The most suitable place for puncture is, in ordinary cases, in the fifth left intercostal space, one inch from the edge of the sternum, but if the pleura be adherent, the puncture may be made safely much further out, and even in the sixth space. 3. The instrument employed should be a trocar and canula, with or without aspiration. 4. The operation may be performed with advantage, not only in the pericardial effusion of rheumatic or primary origin, but also in those which occur in the later stages of general dropsy, if it should appear that the fluid in the pericardium is adding to the difficulties under which the heart is placed. 5. Purulent pericarditis is best

treated on general principles, like empyema. 6. The pericardial sac may be safely opened and drained. 7. This treatment, moreover, appears to be the only one which offers the slightest hope of recovery. 8. The results do not seem to be as unfavorable as those of empyema, for the walls of the cavity are better able to contract rapidly, and thus permit its complete obliteration.

THE PEDICLE IN OVARIOTOMY (*Journal of the American Medical Association*).—Only a few years ago the operation of ovariotomy by abdominal section was considered one of the most difficult and hazardous of the capital operations. Except in the hands of a few experienced operators the mortality was so great that many were reluctant to admit the operation to the field of practical and legitimate surgery. Now, however, ovariotomy has been so greatly simplified and improved that it is one of the most satisfactory in results of all the more important surgical procedures. While the great change which has been wrought in the status and application of this operation is in great part due to those improvements which have so extended the field of abdominal surgery generally, much is attributable to the improved method of treating the pedicle. It is on this feature of the operation—the treatment of the pedicle—that such diversity of opinion and practice has been current, and to which we will direct attention.

When McDowell performed the first ovariotomy in 1809, he secured the pedicle by a ligature, and drew the ends through the lower part of the abdominal incision, leaving them outside in closing the wound. When Dr. Nathan Smith operated in 1821, the vessels of the pedicle were ligatured, the ligatures severed close to the knots, the pedicle returned to the abdominal cavity, and the wound closed completely. At a more recent date the écraseur, the actual cautery and galvano-cautery were used for dividing the pedicle ; and the intra-peritoneal method was followed until Mr. Hutchinson, of London, introduced the clamp. By means of this instrument the pedicle was brought out between the lips of the abdominal incision and became extra-peritoneal. This method was at once adopted by Wells, of England, and Atlee in America, and has been the popular and most generally accepted method. While Clay, of Manchester, and several well-known German operators adhered to the intra-peritoneal method, the clamp became famous in consequence of the brilliant results of Wells, Atlee and others. In the meantime torsion and Miner's method of enucleation were applied in the treatment of the pedicle, the latter being applicable only to special cases. With the advances steadily made in the various details of the operation by the able workers to whom it was entrusted, the mortality was reduced year by year. Among the noteworthy improvements should be mentioned the influence of the Listerian method of treating wounds upon the success of the operation. The greatest interest, however, continued to centre upon the management of the pedicle. It was urged by Mr. Spencer Wells that the pedicle when ligatured and dropped into the abdominal cavity would slough off, thereby leading to a fatal result. In his work on "Ovarian Tumors" he gave conspicuous place to a fatal case in which an examination revealed the distal portion of the stump attached to a coil of intestine and lying in a pool of pus. The intra-peritoneal method had an able advocate in Dr. Tyler Smith, in England, and a brilliant exponent in Dr. Keith, of Scotland. In America the clamp was adopted very generally. In 1868, Spiegelberg and Waldeyer, of Breslau, made experimental investigations upon the changes which

occur in the stump of the pedicle after its ligation and return to the peritoneal cavity.

By these experiments it was shown that the distal end of the stump does not die, but its vitality is maintained through its connecting band underneath the ligature until the sulcus made by the ligature is bridged over with lymph, and vascular connection permanently established. In 1872, Dr. Bantock, of London, exhibited to the Obstetrical Society the stump of an ovarian tumor from a patient who died from cancer one year after double ovariotomy had been performed upon her. On examination the hempen ligature was found to have been almost completely absorbed, the knot only remaining as a hard body about the size of a hemp seed and covered In a paper recently read before the American Surgical Association by Dr. J. Ewing Mears and Morris Longstreth, of Philadelphia, the results of extensive experiments upon the lower animals relative to the intra-peritoneal treatment of the pedicle were given. These experiments cover the essential points observed by Spiegelberg and Waldeyer, and demonstrate some important facts bearing upon the choice of material for ligature. This subject is at the present time under investigation in the hands of Drs. Mears and Longstreth, and additional observations will be reported.

After Dr. Keith, the intra-peritoneal has doubtless been advanced in popularity most by Mr. Lawson Tait, of Birmingham, who has won the highest distinction by his skill in this department of surgery. Adopting almost exclusively the intra-peritoneal method of the ligature cut short, his results are shown in a published table of 101 consecutive cases of ovariotomy with three deaths. Mr. Wells, we believe, still adheres to the clamp, but in America the intra-peritoneal method has been very generally adopted, and the improved results show this to be one of the greatest advances in abdominal surgery. By the clamp the pedicle is drawn out of the wound and exposed to suppurating inflammation. It has been shown that pus is conducted along the pedicle into the abdomen, and thereby begets suppurative peritonitis. It seems that the prediction made some years since by our distinguished countryman, Dr. T. Addis Emmet, that the intra-peritoneal method with the ligature is destined to be the method of the future, is almost verified.

WATER SUPPLY; IMPURE WATER; WATER ANALYSIS; FILTRATION; WASTE OF WATER. Abstract of Lectures Delivered by JOHN S. BILLINGS, Surgeon, U.S.A., in Hopkins Hall, Johns Hopkins University. (*Maryland Med. Jour.*)

ONE of the most important factors affecting the health of a city is its water supply; first, because upon its quantity, etc., depends the cleanliness of the city and its inhabitants; second, because it may be the medium for the conveyance of the causes of disease. Rain water is not a pure water, being contaminated by the organic matter of the atmosphere, and usually by the roof-washings. There are arrangements, however, by which the first washings of the roof may be turned into the gutter, and the after comparatively-clean water into the cistern, and such measures should be employed much more generally than they are, even if the water be used only for washing purposes (see National Board of Health Report, 1880, page 442). The Roman aqueducts, the Chicago tunnel under Lake Michigan, and the works in progress in Baltimore, New York and Liverpool, were cited as instances of engineering feats originating in the desire to secure a satisfactory water supply for cities.

This object is not secured without much inconvenience and even loss to the inhabitants living along the streams furnishing the supply, and many lawsuits are the result. It is practically impossible to preserve wells unpolluted in a large city, and in most cases it cannot be done in a small one. The supposed sulphur springs discovered a few years ago in Baltimore and Washington were cited to show that the contamination is by no means only occasional and of small moment. One of the most interesting questions to sanitarians at the present time is the pollution of water supply. Polluted water does not always cause disease; moderately dilute sewage has been drunk with impunity. On the other hand, typhoid fever, diarrhœa, etc., have been so often caused thus that it is prudent to consider all such water as dangerous. The danger is not in proportion to the pollution nor to the effects upon the special senses. Nor is chemical analysis to be relied on, since the chemist cannot tell with certainty the amount of organic matter present, nor how much is vegetable and how much animal, nor whether it is living or dead. Yet there is much reason to believe that the danger of a water depends to a great extent upon the living organisms or germs. Dead organic matter is not in itself dangerous; on the contrary, it is a food, but the organisms are found wherever dead organic matter is, feeding on it and breaking it up into simpler forms. The chemist is unable to determine the presence of living forms, and also the specific character of these. The biologist must determine these by culture and inoculation. The conveyance of typhoid fever by milk from cans which have been washed with water contaminated with typhoid excreta has been verified many times. The lecturer then described a quantitative investigation which Koch had applied to the water of Berlin, alleged to be polluted by drainage from the sewerage farms. A cubic centimetre of pure distilled water is estimated to contain from four to six such organisms derived from the air. The same quantity in water taken direct from a sewer contains thirty-eight millions, and so on. Such an examination shows nothing as to the specific properties of the organisms.

The lecturer then spoke of water analysis, the main object of which is generally to determine the amount and character of the organic matter present. The ammonia method for ascertaining the quantity of nitrogen is most commonly used; by this can be distinguished that which is in the form of ammonia, and which can be driven off by simple distillation after the water has been made alkaline, from that which is in more permanent combination, requiring the action of chemicals, as caustic soda and permanganate of potash, to decompose the organic matters containing it, when by further distillation it is driven off as additional ammonia, known as "albuminoid ammonia," not because it necessarily or even probably arises from dissolved albumen, but because albumen will give it off when thus treated. The conclusions of Professors Mallet and Ripley Nichols were quoted, to the effect that chemical examination alone is impotent to determine the value of a water. In view of this, the chemist should have personal knowledge of the source and surroundings of a water, and not merely have a sample sent him for examination.

Upon the question of pollution of streams, the lecturer said that the legal remedy here was in the common law principle that every person or corporation owning land on a stream in which the tide does not ebb and flow, owns also the right to use the water flowing in front of his property, and also has the right to have the water come to him in its natural state, both as to quality and quantity. A "prescriptive"

right to pollute a stream may be acquired by twenty years' usage, hence the importance of guarding against it in time. In order to make out a case for injunction or damages it is necessary that the evidence should be satisfactory that a right has been invaded, a nuisance created. The lecturer quoted authorities who maintained—upon the basis of experimental analysis—that natural causes are sufficient to purify a flowing stream when polluted, a satisfactory degree of purity being apparently obtained after a flow of a few miles. Water pollution is of less interest to Baltimore than most cities, because the sources of our supply are unusually free from danger of contamination. Yet a small degree of danger exists, and the authorities must see that it does not increase, and no prescriptive right to discharge refuse into the Gunpowder and its tributaries be established, for no matter how clear the law, there will be difficulties in removing a factory or drain when once established. The trouble is that the city has no jurisdiction over the greater part of the territory from which its supply is obtained. An appeal for protection to the last Legislature, however, failed, the interests of forty persons outweighing those of 400,000. Offensiveness may originate from other causes than sewage pollution, as from algæ, decaying sponge, etc. The musty, fishy, etc., tastes are due to these causes.

Can a suspicious water-supply, employed from necessity, be improved so as to remove the danger? The lecturer thought the possibility of this proven, especially by the experience of Antwerp, where the turbid, polluted water of the Nethe "is rendered colorless, bright, palatable, and fit for dietetic and domestic uses," by filtration through spongy iron. Professor Frankland is of the opinion that specific living germs are destroyed by this process. Koch's method, above referred to, may be used in testing the efficacy of such filters.

Quantity of water supply is a question of great practical importance at this time in most American cities. With it that of waste water has become a prominent topic of conversation among engineers. The popular idea is that the escape of water cleanses the soil pipes; trickling has no such effect, which is attained only by sudden flushing. The great cause of water waste is leaky fittings. The means adopted by some large English cities to prevent this waste, *i. e.*, the stamping and testing of house-fittings, and requiring these to be of certain approved patterns, were described. The lecturer presumed that over half the fittings in this city would fail to pass these tests.

One of the first cases in which impure ice was shown to have caused disease was at Rye Beach, in 1875, when three hundred guests of a hotel had fever and diarrhœa. These symptoms were traced to the ice which had been obtained from a foul pond, and when melted was found to contain decaying organic matter. Other cases have since occurred, and the danger is real, although it has been much exaggerated. In freezing, water purifies itself to a very considerable extent, at all events as regards dead organic matter. To what extent it frees itself from living organisms is unknown, but some of the ordinary bacteria of putrefaction preserve their vitality enclosed in ice, and, by analogy, specific germs may do the same. Dry cold, even below zero, does not destroy the life of bacteria, the anthrax or vaccine species for example. Yellow fever is almost the only disease which we are fairly certain has its powers destroyed permanently by frost.

When the supply of water is limited, it may be supplemented by impure water for cleansing purposes, as is done in Paris.

UTERINE HÆMOSTATICS. By J. BRAXTON HICKS, M.D., F.R.S., Guy's Hospital, London (*British Medical Journal*).

As a small contribution to the practical portion of the subject of uterine hæmostatics, I venture to make a few remarks on the mechanical kinds, which we know by the name of plugs or tents. In doing so I must be understood to refer only to those cases where the cavity of the uterus is not sufficiently large to contain blood in quantity, the loss of which from the circulation is likely to produce anything of serious detriment.

If we go back to former practice and to text-books, we find it recommended that in case of threatened abortion with much hæmorrhage, a vaginal plug should be used. The vaginal plugs recommended are the tampon, cotton or wool, silk or cambric handkerchief, rags or sponges passed in till the vagina is filled up. An india-rubber ball also has been suggested, covered with felt or such like material. Now, even with the best management, there is much of distress to the patient in the use of the vaginal plug; and, with regard to its hæmostatic effect, very much uncertainty, and generally partial failure; and in the hands of the unskillful and careless there is positively no restraint of bleeding worth the mention. If at any time any good results be produced, it is rather by the reflex irritation that it causes, whereby the uterus expels its contents. It is not so very rare an occurrence that one finds, on removal of the plug, the ovum on the uppermost part of it. But, besides its palpable inefficiency, a vaginal plug, being of a porous texture, absorbs a large quantity of blood and thus conceals it from our sight; it also favors decomposition, and this, as is well known, occurs within a few hours; and thus we have a new element of danger.

Again, in many cases, when called to such a case, we have no speculum at hand; and although we may extemporize one out of card-board, book-covers, or such like material, yet, before we have thoroughly and firmly filled the vagina we must have given the patient considerable pain and distress, besides having occasion to put such pressure on the urethra as may necessitate subsequent catheterism. For these reasons, namely, the imperfection of action, pain in introduction, and danger if left in long—in other words, its general crudity—it seems to me that as a general rule the vaginal plug should, in the cases I have supposed, be discarded. And as a substitute I would urge the employment of the cervical plug as being more precise in action, as well as being capable, if we use a dilating kind, of expanding the canal for the purpose of exploration, or for the expulsion or removal of its contents.

If, then, in any case of uterine hæmorrhage where we have the conditions above alluded to, we desire, besides immediately checking the bleeding, to dilate, we can use the compressed sponge-tent; the best form of which I have found to be those made after Sir James Simpson's plan, by Duncan, Flockhart & Co., Edinburgh. These can be introduced by a long pair of forceps, and retained *in situ* by placing a piece of sponge, with tape attached, in the upper vagina. Of course, even these materials retain some secretions, etc., and tend to facilitate decomposition; but their removal and cleansing can be effected much more readily than the vaginal plug, because it requires but a small portion. The seatangle tent, by reason of its slipperiness, is unreliable as a plug in hæmorrhage. If we desire, however, only to plug the cervix, we can very easily extemporize a plug from materials to be found in every house. For instance, take a stick (say a flower stick) about a foot long,

and taper it at one end to about the size of a uterine sound, or larger; wind round this end, for about three inches down, strips of cambric rag, lint or sponge, to the required thickness, judging from the size of the os. Strips of sponge can be readily obtained from the cup-shaped sponges of compact texture, and they can be tied on by thread, layer after layer, till the requisite conical form is obtained. The strips of the other material can be laid on similarly. After the covered end has been well greased it is passed into the canal and the stick retained *in situ*, after the manner in which we tie in a catheter; an elastic tape, if obtainable, is to be preferred.

A catheter or bougie, at the end of a long injection-tube, can be treated in the same way. If we require great precision of application, then it is best that the hand should hold the external end till the hæmorrhage has ceased. If the catheter and stilet be used, then I have found it convenient to bend the external portion backward, between the buttocks, tying the tape around the ring of the stilet—the ends of the tape being carried, as usual, to back and front of the waist-band.

These more homely adaptations I have recommended, rather than the especially made kinds, because they are often wanted at times when we cannot send home for a showy sort. In any case, a cervical plug, expanding or not, is more precise, less crude and painful in application, than the vaginal, and, in my experience, nearly always successful. In all cases of abortion, where a plug is necessary, I would lay it down as a rule that the expanding tent should be employed. In case of flexion with abortion (and it is this complication which so frequently increases the hæmorrhage) it will be found that the covered stick or stemmed plug, above described, is very useful; for, if the fundus be elevated during its introduction, the uterine cavity is straightened and evacuation of the contents thereby facilitated.

Emmenagogue Powers of Manganese (*Medical World*).—Less than a year ago, Dr. Ringer, of London, called the attention of the profession to the emmenagogue powers of manganese. Since then it has been extensively tested in America, and the results are uniformly gratifying. When the amenorrhœa depends on a weak condition of the sexual apparatus, the action of this drug is specially favorable. But as amenorrhœa and menorrhagia often depend upon the same condition, this remedy is here efficacious.

A weak organ may be unable to start a flow, and when started it may be unable to stop the flow. Then in amenorrhœa or menorrhagia, depending on weak sexual organs, this is a useful, if not the most useful remedy. General anæmia may or may not exist.

Dr. Martin, of Chicago, reports in the *Medical Record* a number of cases treated by this remedy. He gives the permanganate of potassa as the most convenient form to administer manganese. It is given in doses of two grains or more, and may be given once or several times a day. It is best given after meals, and dissolved in considerable water. It is difficult to prepare in pill form, as any organic substance decomposes it. When perfectly dry it may be put into capsules. In cases of young girls, where there is trouble in getting menstruation established and regular; in mothers, about weaning their babes, who have the same trouble; in the legions, both married and single, whose menstruation is stopped by taking cold, in all these cases the profession has long needed something prompt and reliable.

Also, in stout, plethoric women who often have feeble sexual organs

and suffer from either no flow at all or too much flow. But more especially is this remedy valuable in weak, anæmic women and girls, reduced either by overwork or disease. Dr. Martin reports the case of a girl who had not menstruated for four months in consequence of phthisis. She menstruated in one week after permanganate of potassium had been added to her treatment.

This remedy, in addition to being a general tonic, stimulates the uterus and its appendages.

As this is still a new remedy for these troubles we would be glad to publish further experience with it.

THE SECRETION OF BILE (*N. Y. Medical Record*).—Baldi has made an experimental investigation of this subject (*Lo Sperimentale*), which again shows the singular irregularity of the flow of the bile. This alone suffices to distinguish it from the other digestive secretions. The observations of the author, so far, tend to prove that the liver, as the secretory organ of the bile, must be considered as an emunctory for the waste materials of the different tissues destined to be expelled. This accords with the researches of Schiff, who has shown that the bile poured into the intestine is in part reabsorbed and taken back to the liver by the portal vein, to be again excreted and returned to the intestine. Some observers doubt if the biliary matters absorbed into the blood pass again in the secretion of the liver, thinking it possible that they may serve only to excite increased secretion without passing out again by the liver. Having repeated Schiff's experiment of injecting bile into the stomach and directly into the blood, the author shows that the liver, rather than the kidneys, expels the biliary matters from the blood. When ox bile was injected into the stomach, the secretion of bile increased enormously, the bile having taken the green color of the ox bile. The same happened when the bile was injected into the blood direct, while the urine showed no trace of biliary acids by Pettenkofer's test. All the bile was expelled by the liver, and not a trace by the kidneys. Admitting that the biliary acids (the only true specific elements of bile) are the exclusive products of the hepatic cells—and this remains to be directly proved—the fact is nevertheless true that the biliary secretion is distinguished in a characteristic manner from the other digestive fluids, by the irregularity of its flow and by its independence of any decided exciting influence of food or medicine. It presents instead many points of contact with the urinary secretion; both depend essentially on the collective waste of the organism, the liver having an excretory faculty for the biliary materials, just as the kidneys have for the urinary materials.

AMERICAN MEDICAL DIPLOMAS ABROAD.—Australia seems to be peculiarly favored just now with bogus diplomas from the United States. The *Australian Medical Journal*, of June 15, tells us that the Medical Board of Victoria has recently refused to register a Rev. R. V. Danne, who presented a diploma from the Medico-Chirurgical College of Philadelphia, which Mr. Danne said had only been in existence two years or thereabouts. A translation of the diploma is given, as made by one of the best classical scholars in the colony, which is interesting reading. Among other things, it declares the holder to have passed all his examinations in jovial fashion (in more jucundo). The translator expresses his appreciation of it by saying: "It is hideously bad Latin, and there are grammatical blunders in it for which a little school-boy would be soundly whipped."

ORIGINAL TRANSLATIONS.

THE NERVOUS SYMPTOMS OF SACCHARINE DIABETES. By H. BARTH, Hospital Physician. Translated from the "*Union Médicale*" by H. McS. GAMBLE, M.D., Moorefield, West Virginia.

Within the past few years the clinical history of the disease of Willis has been singularly enlarged; thanks to the precision of modern observation, thanks to the perfected methods of research, numerous facts that the older authors allowed to pass without noticing them, or that they noted incidentally without comprehending them, have been collected, classified, interpreted, and have come to assume in the symptomatic picture a place, the importance of which each day is increasing.

This remark applies especially to the phenomena of a nervous order, in the proportion that one enters more deeply into the clinical study of diabetes, one is led to recognize the fact that in all its phases, from its commencement to its termination, this curious disease may determine, in the different functions of the nervous system, a series of perturbations, some slight, others grave, all of which seem to be under the immediate dependence of the dyscrasia produced by the presence of sugar in excess, which offer in fact, as well from a pathogenic as from a clinical point of view, a remarkable analogy with the symptoms resulting from the different intoxications, such as alcoholism, saturnism or uræmia.

The very interesting study of the nervous manifestations of diabetes is today so far advanced that it is possible to draw a picture of them as a whole. Such is the task which has fallen upon Dr. Dreyfus at the last competition for the fellowship, and it is from his remarkable thesis that we shall extract the greater part of the following details.

What distinguishes at the outset the diabetic nervous phenomena, what prevents confounding them with those of the diseases proper of the nervous system, is their variable and irregular character. According to the remarks of Trousseau, they are odd, protoform, and, above all, unexpected; they follow no course, no regular gradation. Without any known cause they are seen to appear, disappear, amend or become aggravated; sometimes they show themselves even at the beginning of the disease, of which they constitute the first disclosing signs; at other times they appear only at later periods; they may be even entirely wanting; they also rather deserve the name of accidents than of symptoms.

For want of a natural order which does not exist in the cases, we are obliged to have recourse to an an artificial classification and to describe successively the troubles of motility, those of sensibility and of the organs of sense, trophic troubles, and finally the cerebral phenomena. Let us rapidly run over these different points, and let us then try to see how, in the actual state of science, we can explain to ourselves the general pathogeny of the nervous symptoms of diabetes.

1. The disorders of *motility* have been indicated, since Rollo, by all authors. There is at first a marked diminution of the strength, a general lassitude, often accompanied by pains in the loins, simulating lumbago. The patients complain, according to the vulgar expression, of having cotton in the legs (of growing weak), they become apathetic and dread the least exercise. However, upon examining matters more closely, no true paralysis is observed; the muscular vigor is preserved, or scarcely diminished, but it quickly becomes exhausted, and an effort, however short it may be, leaves after it a prolonged fatigue. This lassitude, this muscular torpor, which often appears at the beginning of the

disease, is accentuated in proportion to the progress made by the latter; we see it diminish with the glycosuria under the influence of a rational treatment.

By the side of this phenomenon of daily observation it is not rare to observe irritable paralysis, and these latter present characters altogether peculiar, well brought out by Lasègue. They may show themselves at all periods, and very frequently accompany the initial phases; they are transient and ordinarily partial. If sometimes they are seen to affect the hemiplegic form (Lasègue), or even paraplegic (Maréchal de Calvi), they are more frequently limited, it may be to one member, it may be to a group of muscles. They affect the most singular localities; it is thus that they are seen to occupy the tongue, the motor muscles of the globe of the eye, or even those of the larynx; sometimes they are associated in the most paradoxical manner and the most unexpected. We have said that they were incomplete and rather limited to a simple paresis. Their duration is very irregular, often they retrocede in a few days, but to reappear some time afterwards with the same characters.

Divers other motor troubles have been observed; thus the inco-ordination of movement with the gait recalling that of ataxics (Maréchal); thus cramps (Pavy, Bouchardet) which are remarkable for their frequency and their tenacity, and which, supervening during the night, sometimes prevent all sleep; thus also the convulsions, which may be partial or general and affect the character of epileptiform attacks.

2. The disorders of sensibility are not less common, and also present a great variety. Often it is an anæsthesia, which may be limited to one member, but which more frequently marks out some irregular places without any relation to the distribution of the cutaneous nerves; it may occupy all the points of the body. Rarely the anæsthesia is complete; ordinarily there is only analgesia or tactile anæsthesia; quite often it is associated with a neuralgia.

Cutaneous hyperæsthesia is very frequent; everybody knows that itching, that insupportable pruritus which appears due to the elimination of the sugar by the cutaneous glands, and which is sometimes the revealing phenomenon of a diabetes ignored up to that time. Twitchings have also been noted, painful prickings like the stinging of ants in one side of the body (Trousseau); in some patients a marked sensibility is observed upon pressure in the region of the nucha, or along the vertebral column; finally, certain diabetics experience an excessive susceptibility to external cold, probably due to the abatement of the interstitial combustions.

The diabetic neuralgias have often been noted. According to Worms and Berger (de Breslau), they are frequently bilateral and symmetrical, remarkable, moreover, for the intensity and the tenacity of the pains, which resist all therapeutic measures; the treatment of the diabetes alone, by acting upon their cause, is able to modify them. These neuralgias have no seat of election; we see them occupy the sciatic nerves, the intercostals, the dental nerves; according to Rosenstein, they possess the characteristic of being often limited to the periphery. They do not spare the visceral nerves; neuralgia of the pneumogastric is far from being rare, according to Prof. Peter, and gastralgia is noticed by all authors. It is doubtless to a neuralgia of the cardiac nerves that we must attribute the cases of angina pectoris in diabetics, to which Vergely and Huchard have recently called attention.

After the troubles of the general sensibility, let us notice those which concern the organs of sense. The loss of sexual feeling and impotence show themselves at an early hour in diabetics, and, unlike individuals attacked by disease of the spinal cord, notably ataxies, they seem to resign themselves to it without trouble, with the apathy and the indifference which is habitual to them (Legrand du Saulle).

Ocular troubles are among the most frequent and significant of the manifesta-

tions of diabetes ; it is before all and above all diabetic cataract, to the notice of which we confine ourselves ; then glycogenic retinitis, recognisable by the ophthalmoscope by multiple retinal hæmorrhages and by whitish spots, called fatty, which resemble those of albuminuric retinitis ; more rarely progressive atrophy of the papilla is observed. Amblyopia without lesions of the fundus of the eye is quite frequent ; it is ordinarily binocular, and characterized by the sensation of a mist, with or without lacunæ of the visual field ; sometimes by dyschromatopsia ; hemiopia has also been observed (de Graefe). We have already noticed the ocular paralyses ; they are incomplete and transitory like those of the other muscular systems ; they sometimes strike the muscle of accommodation, whence premature presbyopia, sometimes the iris, whence mydriasis and pupillary inequality, sometimes one of the motor muscles of the eye, and more especially the external rectus, whence convergent strabismus.

The other organs of sense are more rarely involved ; however, deafness is sometimes produced (Dreissig-Griesinger) or buzzing in the ears (Senator), and, according to Lecorché and Marz, anosmia is not very rare.

We mention only in passing the varied and incongruous trophic troubles which are observed in diabetes; urticaria (Peter), partial sweatings (Buiclé), symmetrical gangrene of the extremities (Reynaud), retraction of the palmar aponeurosis (Dreyfus-Brisac), and we reach the central phenomena which present much more importance.

3. Near the commencement of his disease, the diabetic becomes passive, indifferent to everything surrounding him ; his intellectual apathy renders work impossible, his memory fails ; often he is a prey to a perpetual somnolency.

In opposition to this picture, in some cases a condition exactly the reverse of it is observed ; the patient is irascible and agitated, his nights are passed in sleeplessness ; sometimes even he is attacked with a nocturnal delirum, which sometimes resembles the delirium of heart disease, and sometimes is characterized by the obsession of a fixed idea ; these mental troubles may proceed even to madness.

But this is not all. The diabetic patient may present different symptoms which, to the observer not forewarned, recall the symptoms of a cerebral tumor. For instance, an intense and tenacious headache, which is most frequently located at the back of the head and neck (Maréchal de Calvi) ; an aphasia sometimes complete, but of short duration (Bouchard) ; attacks of cirtigo or of syncope, these latter almost always *en rapport* with sudden crises of diarrhœa (Laségue) ; even epileptiform or apoplectiform attacks as sudden as unexpected.

It remains for us to speak of *diabetic coma*, a grave complication in all, of which Kussmaul first gave the exact description, and which holds to-day such an important place in the history of diabetes. The clinical characters of this redoubtable complication are well understood. No patient is safe from it, for sometimes it appears all at once and constitutes the first sign indicative of the diabetes ; sometimes it arises only in the last stage, cachectic ; sometimes, finally, it shows itself brusquely in the course of a diabetes recognized and under treatment. The inconstant prodromes are limited to a few phenomena of cerebral excitation, a certain incoherent loquacity, or perhaps a pain at the epigastrium, a feeling of great distress, a vague malaise ; sometimes it is noticed that the breath exhales a peculiar odor, recalling that of chloroform. Soon the symptoms break forth, rapid and overwhelming. At times it is the gastro-intestinal disorders which open the scene ; attacks of colic and vomiting (Schmitz), abdominal pains simulating a peritonitis (Jaccoud) ; chloroform diarrhœa (Buhl and Tappeiner) ; or there is at the outset a complete inexplicable prostration. But the capital phenomenon is a violent dyspnœa, with a peculiar rhythm ; the inspiration is profound and energetic, as if the patient had need of air ; the expiration is equally energetic ; there are no intermissions as in uræmia ; on the

contrary, the respiratory movements are rapid and regular; however, there is no orthopnœa; the patient, extended upon his bed, is incapable of making any movement; his pulse is small and rapid; his skin dry, rugose; his tongue dark and like parchment; the extremities are cold; the urine, when it is not suppresed, exhales the same odor as the breath. The coma is not long in becoming complete, sensibility and voluntary motility are abolished, the respiration becomes stertorous, the central temperature rapidly falls, and the patient succumbs at the end of twelve or fourteen hours without any convulsive phenomenon.

4. It is seen that the nervous phenomena in diabetic patients are as varied as important, and often occupy a large place in the ensemble of the symptoms. If their clinical history is to-day very well understood, is it so with their pathogeny? No, unfortunately; and the extensive efforts which have been made in this direction have only resulted in theories often plausible but none of which can explain the whole of the facts.

As we have said in commencing, the essentially disorderly character of the accidents we were studying, their variability, their inconstancy, do not permit us for a single moment to attribute them to a primitive alteration of the nervous centres, and the illy-defined lesions elsewhere, which have been met with in the autopsies, are evidently effects, rather than causes. On the contrary, everything approximates the diabetic nervous troubles to those observed in the different toxæmias, and everything demonstrates that they ought to be referred to a veritable intoxication. But what is the nature of the toxic agent, and what is its mode of action? Here is where the difficulties begin. The greater part of researches have been directed exclusively to the diabetic coma, the most important of the phenomena in question, and the easiest to study experimentally. Griesenger, Busch and Wunderlich, struck with a certain clinical analogy, with the hypothermy, the gastro-intestinal phenomena, and the collapse, have expressed the idea that diabetic coma was due simply to uræmia. This opinion cannot be sustained, for, without speaking of the numerous cases in which the symptoms break out in diabetics whose kidneys perform their functions well, and whose urine is not albuminous, it is certain that, in the character of the dyspnœa, in the absence of convulsions, diabetic coma differs profoundly from uræmic coma.

Kussmaul has defended a more plausible theory, and one which counts still to-day many adherents; that of acetonæmia.

He thought that the sugar of the blood was decomposed by spontaneous, acetic fermentation, and thus gave rise to acetone, an ethereal substance analogous to chloroform, and endowed like it with stupefying properties. It is certain that acetone exists in the blood of comatose, diabetic patients, as the chloroformic odor exhaled by their breath and by their urine demonstrates. But the experiments of Kussmaul himself, and of several other observers, have demonstrated that the toxic accidents produced by the injection of acetone into the blood offer only a vague resemblance to diabetic coma; besides, it is necessary, in order to produce these accidents, to employ very strong doses, and it does not appear probable that this substance, eminently volatile, which is eliminated without obstacle by the lungs, can accumulate in the blood in notable quantity. If acetonæmia can account for certain cerebral troubles, it does not explain the terrible phenomena of dyspnœa, and of collapse that characterize diabetic coma.

From this latter point of view, the hypothesis recently given out by Sanders and Hamilton is certainly seductive. Starting from this well-established fact, that one often finds a notable quantity of emulsified fat in the blood of diabetic patients, these authors have attributed the dyspnœa and the coma to capillary fatty embolisms, analogous to those observed in compound fractures. But the reality of these embolisms is as yet only imperfectly demonstrated, and it is

difficult to understand under what influence they could arise in so sudden a manner. Supposing the fact correct, this interpretation certainly does not suit every case.

More comprehensive and more conformable to the results of observation is the theory of Prof. Bouchard, to whom the study of the pathological physiology of diabetes has suggested so many ingenious ideas; without the intervention of any new morbid agent he simply attributes the nervous disorders of diabetes to the dehydration of the tissues, the natural result of the hyperglycæmia. The sugar, which circulates with the blood, and which impregnates all the organs, is incessantly borrowing from the tissues the water necessary for its diffusion. If this water is not supplied in abundance by drinking, there results a relative dryness and a state of suffering of the anatomical elements, notably of the nervous elements. Then let come an aqueous spoliation which quickly augments the density of the blood, the dehydration will exceed the limits compatible with the support of organic life, and accidents promptly fatal will be the consequence of this rupture of the nutritive equilibrium. Thus would be explained the frequent appearance of diabetic coma after profuse sweats, diarrhœas and all causes capable of producing the brusque augmentation of the density of the blood; thus would be justified the assimilation which Buhl has attempted to establish between the nervous phenomena of diabetes and those of cholera.

This hypothesis presents a strong probability, and it is possible that the future may confirm it; but does it embrace the whole truth, and is its simplicity in accord with the extreme complexity of the facts? It would be premature to decide. In default of a definitive solution, we are at least in possession of certain data which permit us to-day to get a tolerably clear glimpse of the ensemble of pathological conditions of the nervous complications of diabetes.

Glycæmia, the surcharge of the blood and of the tissues with sugar, is evidently the primitive essential fact; by its irritant action this sugar determines derangements of the capillary circulation; by its avidity for water it hinders the phenomena of osmosis and injures the nutrition of the anatomical elements; whence various functional disorders; whence for the nervous system, impressionable amidst all, a state of malaise which betrays itself in a thousand ways. If, under these conditions, a fortuitous circumstance comes to modify brusquely the internal equilibrium already impaired, to increase the density of the blood by the extraction of water, to stop the elimination of sugar, or to provoke its decomposition, immediately the changes of nutrition will cease, the nervous system struck with stupor will refuse all service, and life, of which all the sources are drained at the same time, will soon become extinct.

SELECTED ABSTRACTS.

RINGWORM: ITS PATHOLOGY AND TREATMENT. By R. M. SIMON, B.A., M.B., Cantab.

The disease is undoubtedly contagious, but its contagion varies in strength at different epochs of life, and the ringworm of childhood is not the ringworm of maturity. The disease is essentially the same, but very different in its situation; in childhood the head, in mature life the body or rarely the hairy parts of the face are liable to be effected, and the cause in every case is the trycophyton consurares.

The best way to find the fungus is to extract one of the broken short and thick hairs, and after maceration for an hour or two place it under the microscope.

On the body, where ringworm especially affects the face, neck or chest, it commences with small red circular spots, and is often associated with the formation of minute vesicles. These circular spots gradually increase at their circumferences, while the centre becomes more or less normal, the subsidence of the original vesicles being followed by desquamation. The advancing edge is raised, and red, and is an important element in diagnosis, for the patch might, but for this elevation, be taken to be one of eczema. Should there be any difficulty about the diagnosis, the point may be settled by scraping some of the epithelium from the inner border of the advancing ring, and the finding of the characteristic mycelium. I may at once discuss the treatment of this condition, as it is quite distinct from that of the hair, and by far more easy ; any parasiticide will be effectual, but I have been in the habit of using a preparation of equal parts of sulphurous acid and glycerine with good effects ; a free use of soft soap and water is important, and it will be advisable in every case to examine the hair to see if there be a coincident patch there also. If fortunate enough to catch a case at its commencement, we find a small ring of minute vesicles on a red base ; the fluid which is between the rete mucosum and the epidermis is quickly absorbed, and there results a branny desquamation which spreads rapidly, and we soon have round patches of a grayish color, covered with scales, and but sparsely with stumps of hairs. There is a great amount of gray débris surrounding the base of the hairs, which are thick and stubby, with a fracture like the end of a broom, and full of fungus ; they come out very easily, more often breaking in epilation, but without pain, and this is important. If you find a child objecting very decidedly to epilation you may be moderately sure that there is no ringworm in the hairs you are handling.

For practical purposes ringworm of the head may be divided (1) into recent cases ; (2) cases of disseminated disease, where the head is practically covered ; (3) cases in which there remain one or two old patches which are most intractable. The cardinal feature which underlies all indication for treatment is the tendency of the fungus to penetrate deeply into the hair follicles. Bearing this in mind, it will easily be seen how useless is the application of medicamenta merely to the surface. Over-much washing must be avoided, for if the scalp be soddened by water, ointments cannot sink deeply into the follicles.

For recent patches I use glacial acetic acid, painting it on to the affected parts, but I do not think it better than blistering fluid. I never shave the head in these cases, preferring to clip the hair all over where the disease is widely distributed, and for half an inch round the patches, where there are but few. One cannot so easily distinguish the diseased hair from the sound, where they first emerge above the surface, and I have repeatedly seen cases where a child has been most unnecessarily tortured by the extraction of healthy hair, which would have been avoided had the hair been only closely clipped. Sometimes this treatment repeated once or twice will effectually cure the disease, but as a rule more treatment is necessary. It will be necessary, with the aid of a good lens, to every day extract a few of the diseased hairs, and to rub an ointment on the patches themselves, whilst it will be wise to employ for the rest of the hair a combination of carbolic acid with glycerine or oil. Mix carbolic acid with either of these in the proportion of 1 to 12,

and let it be applied every morning. For the patches themselves you may use carbolic acid and glycerine in equal parts if the patient be about ten years old, and the skin not tender; but for infants and younger children it will be necessary to use a larger quantity of glycerine. Glycerine penetrates well into the follicles, and after its use you will find the hairs getting loose and very easy to extract. This preparation must be used with a sponge and thoroughly rubbed in night and morning, care being taken that it does not run down the face, which it very easily irritates. The best remedy consists of ung. sulphuris as a base, and varying proportions of ung. hydrarg. nitratis citrine ointment, and carbolic acid. For a child of ten you may use equal parts of all three; for a child of two, 1 part of carbolic acid and ung. hyd. nit. to 5 of ung. sulphuris, and increase the proportion of the two more active agents in a direct ratio with the age of the child.

For the treatment of chronic cases of ringworm we have two modes and must be guided mainly by the extent of surface affected; where this is large we have a valuable remedy in the oleate of mercury. This should be mixed with acetic ether, in the proportion of 1 part of the latter to 7 of the oleate; the oleate being of the strength of 5 or 10 per cent. according to the age of the child. In such a case you may commence by cutting the hair to about a quarter of an inch from the head, and washing well with the spiritus saponis alkalini of Hebra. This is prepared by mixing 2 parts of soft soap with 1 of rectified spirits of wine; allow the mixture to stand for 24 hours, then filter and use the filtrate as a lotion. Dip a sponge first into hot water and then into this lotion, and rub on the head until a free lather results. Leave the lather on for a quarter of an hour, and wash off again with water. Rub the oleate thoroughly well into the patches night after night, and whenever the epithelium reaccumulates have recourse to the spir. sapon. alkalin.

In a majority of cases this treatment will be successful, but occasionally, while the greater part of the surface recovers itself, there will be left one or two isolated patches which resist all treatment. For these there is no help for it but the production of artificial kerion by the use of croton oil, which must always be applied by a medical man and closely watched. Alder Smith directs that it should be painted on a small patch every day until the part becomes swollen, tender, puffy and boggy; during the intervals of the use of the oil, poultices should be kept constantly applied. After a varying number of days of this treatment, the patch will be found covered with a thick yellow crust, which is easily removed and leaves a red tender surface, and causes a purulent discharge from the follicles, which either carries with it the diseased hairs, or leaves them loose in the follicles and renders their extraction a matter of ease. Take care not to cause a slough of the skin, as thereby the hair follicles are destroyed, and a patch of permanent baldness remains; also do not attack too large a portion of the surface at the same time.

Never declare a case well so long as there are visible minute black dots, which are the orifices of diseased follicles; these must be treated by inserting a needle with a drop of croton oil far down into the follicle, as in the production of kerion this will be followed by local swelling and pustulation and the extrusion of the diseased hair. There generally remains after an attack of ringworm a large amount of scurf on the head, and this may be effectually treated by the spir. sap. alkal.—*Birm. Med. Review.*

KIDNEY DISEASE IN PREGNANCY AND LABOR. By FLAISCHLEN (*Zeitsch. f. Geb. u. Gyn.*, VIII., 2).

Concerning the literature of the subject the views of several authors are given. Georgi is of opinion that a nephritis contracted during the pregnancy may develop into a chronic inflammation of the kidneys, but that artificial abortion, as a rule, is not indicated. Hoffmeier considers the prognosis of the nephritis of pregnancy as very bad. One-third of the cases which came under his observation died. Chronic inflammation is very likely to ensue. He is in favor of artificial abortion. Moricks considers that engorgement is an etiological factor of the greatest importance in most cases of this disease. He thinks with Hofmeier that structural changes of so severe a character take place in the kidneys that restitution to its integral condition is impossible. Leyden thinks that the structural changes in the kidneys are not due to a venous engorgement, but to a fatty degeneration of the epithelium, brought about, however, by disturbances in the circulation. He thinks that the proof has not yet been given that chronic inflammation will follow. Ingersley finds it very difficult to decide, in a given case of nephritis during pregnancy, whether this has been caused by the pregnancy, or pre-existed in a latent condition. He thinks that a complete return to health, after this disease has become established, is doubtful. Hiller believes it is proven that a compression of one or both ureters is a possible cause of the disease, and in severe cases is unconditionally in favor of the securing of artificial abortion as a means of saving life. Much light is still needed in order to make the pathology of this subject satisfactory. A reply to two questions would be of the greatest interest: first, what are the distinguishing characteristics, clinically and anatomically, of the nephritis of pregnancy; second, in a given case of this disease, is a differential diagnosis possible between the nephritis of pregnancy on the one hand (*i. e.*, caused by pregnancy), and acute and chronic inflammation (*per se*) of the kidneys on the other, and can this disease which is under consideration develop into chronic nephritis? The investigations of the author included the examination of the urine of one thousand pregnant women, at different periods during pregnancy, and also after it was concluded. In only ten of these cases was pronounced albuminuria found and studied subsequently, and only four of these could be reckoned as severe cases. In the six mild cases the edema which existed when they were received into the hospital disappeared after a few days' of rest, showing the independence of this system upon the nephritis of pregnancy. In the four severe cases there existed abundance of albumen in the urine, scanty discharge of urine, extensive fatty degeneration of the epithelium of the kidneys, and few or no red blood-cells—conditions which are quite characteristic of anæmia of the kidneys. In the milder cases the disease seemed to be limited to the epithelium of the glomeruli, and the albuminuria was apparently conditioned upon this. The absence of cylindrical and kidney epithelium in the sediment of the urine shows that the epithelium of the canaliculi was intact. The author thinks that edema of moderate extent might be expected from pressure of the enlarged uterus upon the veins which come from the lower extremities, but if the edema were universal that it is due to insufficient heart action, caused possibly by hydremia in consequence of long-continued loss of albumen. In making a differential diagnosis between the nephritis of pregnancy, and chronic interstitial nephritis, particular attention should be paid to the quantity of urine discharged and to its specific gravity.

These factors are of greater importance than the sediment which is precipitated. If, with considerable albumen, we also find a low specific gravity, and a rather abundant discharge, the suspicion is warranted that the case is one of chronic nephritis, for in cases of nephritis of pregnancy in which albumen is abundant, the specific gravity is always high, and the quantity discharged is small. In differentiating from chronic purenchymatous nephritis, the difficulty is still greater. In this as well as in the disease just mentioned we must rely largely upon the condition of the heart for our opinion. In either of these chronic diseases we shall find hypertrophy of the heart, and a characteristic hard pulse. The author has not yet seen any evidence, either in literature or in personal experience, that the nephritis of pregnancy develops into chronic nephritis. He admits, however, that the question is undecided. With reference to the second part of his subject, namely, kidney diseases brought about by parturition, two series of cases are cited. From these cases it appears that a kidney affection may be produced by parturition, which is characterized clinically by hyaline and granular casts, and by the fatty degeneration of the epithelial elements of the kidney. The author thinks that this form is connected etiologically with the form which results from pregnancy. The author sums up his investigations as follows: 1. In one series of cases reflex anæmia of the kidneys can be explained only by reference to the gravid uterus. This constitutes the nephritis of pregnancy. The first result of this is seen, anatomically, in changes in the epithelium of the glomeruli; clinically, in the existence of albumen. Degenerative changes in the epithelium of the canaliculi follow, with increased discharge of albumen, together with casts and epithelial débris. These changes come most commonly towards the end of pregnancy. In cases in which chronic inflammation pre-exists, the disturbances in the circulation come earlier, and with greater intensity, as the inflammation is more or less advanced. When pregnancy ends, the disturbances in the kidney ends also. The proof is wanting that there is a development into chronic nephritis, and, *a priori*, this is quite improbable The danger in the disease lies in the retention of urine, in consequence of the fatty degeneration process in the canaliculi, and eclampsia consequent upon this, which will endanger the life of both mother and child. In order to avoid this, artificial abortion is indicated in severe cases. 2. In a second series of cases the disturbances in the circulation of the kidney first manifested themselves as reflex phenomena, for which parturition was responsible. They occurred usually in cases in which labor was protracted. In a certain number of cases vasomotor disturbances were probably causative. If kidney disease existed previous to parturition, it is likely to be augmented by the latter, but a nephritis caused by parturition never eventuates in chronic nephritis.

A. F. C.

JAUNDICE IN NEW-BORN INFANTS. By HOFMEIER (*Zeitsch. f. Geb. u. Gyn.*, VIII., 2).

The paper opens with a discussion concerning the various theories as to the hepatogenous or hematogenous origin of jaundice, each of which has a measure of truth, but fails to correspond entirely with the author's views. The chief fault lay in a one-sided expression of views in regard to individual phenomena and local processes, or in too great confidence in unproven theories. An extensive series of investigations was made

by the author upon icteric children during the first ten days of life, and the following facts were brought out: The disease is associated with a decided loss of weight, which comes on during the first few days of life, and with an extraordinary increase, during the first nine days of life, in the discharge of urea, in the formation of uric acid, and uric acid infarcts, and in the phenomena which accompany the latter, as seen in the excretion of albumen. A constant phenomenon, which varies in intensity with the intensity of the disease, is the excretion of a yellow coloring material with the urine. The less appropriate the nourishment of the child, as to quantity and quality, the greater is the loss of albumen. The proof of this lies in the continued loss of weight contemporaneously with an increased discharge of albuminous elements. This consumption of albumen concerns the albumen which is circulating in the blood-plasma, and thus affects the red blood corpuscles, together with the respiration which comes into action after the child is born. The longer these processes last and the more intense they are, the greater the consumption of red blood corpuscles, which process is probably accompanied by an equally active production of new corpuscles. The proof of the latter lies in the complete analogy of phenomena in the direct destruction of red blood corpuscles in the circulation with the observed facts in case of fever, and in the results upon the red blood corpuscles of chloroform narcosis. While this destruction of red corpuscles is excessive only in a physiological sense, the bile coloring matter represents one of the most essential physiological products of the coloring matter of the blood. In addition to this, by the beginning of the function of the intestine as an organ of digestion, the secretion of bile is stimulated to a marked degree, so that, in consequence of the conditions which have been described, an increased secretion of bile, rich in pigment, occurs, corresponding to the good or bad condition of the child's nutrition. With all these facts in view, there are also certain anatomical conditions which favor the passage of bile into the blood, and the final phenomenon is the icteric discoloration of the skin. When the child is poorly developed and poorly fed, the icterus is likely to continue for some time. The question as to whether the icterus of the newly-born is a physiological or a pathological phenomenon, admits of two answers. It is pathological in so far as the passage into the blood of bile, a substance which is foreign to it, is always pathological. It is physiological in so far as the causes which produce this result are founded upon the physiological relations which subsist after birth. Very few children are so favorably circumstanced immediately after birth that they can contend successfully against the extraordinary demands made upon their organism for a few days, solely by means of the nourishment which they get.

A. F. C.

PHOSPHATE OF CODEIN.—The *Wiener Med. Blatter*, for August 16th, contains the mention of a new drug, the phosphate of codein (*Med. Record*), which has been prepared by Merck, of Darmstadt, under the direction of Prof. Hegar, of Freiburg. It is intended for hypodermic injection, for which neither the sulphate nor the chlorate are suitable, being nearly insoluble in water. The new salt is soluble in four parts of water, and contains seventy per cent. of codein. It crystallizes in four-sided columns, and is similar to morphia in action, with the advantage of having less tendency to excite toxic symptoms. It is particularly suitable for sensitive patients.

LECTURES.

A Lecture on Permanent Asthma, delivered at the Hotel Dieu, by Prof. Germain, Sec. Translated from the *Union Médicale*, by H. McS. Gamble, M.D., Moorefield, W. Va.

SUMMARY. DEFINITION OF PERMANENT ASTHMA. RELATIONS WITH CHRONIC EMPHYSEMA. TREATMENT.

Gentlemen: To the majority of physicians asthma is an intermittent disease, with paroxysmal exacerbations occurring especially at night, and disappearing after a few hours, without leaving in general, in their wake, any other disturbance of the health than a certain degree of fatigue and of general enervation. Intermittance is for these physicians the characteristic fact, and this idea dominates their minds to such a degree that they refuse to accept the notion of an asthma with continued dyspnœa. It is admitted that the attacks of asthma, by repetition, end by determining an habitual dyspnœa which persists between the attacks. This is what Von Helmont called *mixed asthma*. But if these phenomena of continual oppression are ever so little accentuated, you see the idea of asthma effaced. The physician called to formulate a diagnosis gives himself no further trouble about knowing whether the patient has had any intermittent attacks anteriorly; he sees nothing beyond the lesion he has under his eyes, and he says: Pulmonary emphysema with chronic bronchitis. Still more strongly is he fixed in this conclusion if, going back to the antecedents, he learns that the patient has never had any nocturnal attacks. But, gentlemen, I wish to establish before you to-day the fact that not only may asthma become continuous after having been intermittent, but that it may from the start, and without having passed through the phase of paroxysmal attacks at greater or less intervals, constitute a disease with permanent dyspnœa, and that the asthmatic, however catarrhal and however emphysematous he be, is always an asthmatic.

It must be said that it is Laennec who has destroyed the idea of asthma to the advantage of emphysema. Before him, asthma as a disease was perfectly established and admitted, not only from a nosological point of view, but in practice, and this tradition has persisted to the present day among those who have the conception of asthma that prevailed before Laennec. The latter dismembered the disease and divided its elements into dry and pituitous catarrhs, pulmonary emphysema, neurosis of the lungs; and the position that he accords to asthma is so restricted, that he asks himself whether, outside of dry catarrh and emphysema, there really exists a nervous disease which deserves this name.

Dating from the time of Laennec, physicians have been preoccupied, so to speak, only with pulmonary emphysema. Chomel, Louis, Grisolle, regard asthma as a rarity, and Louis makes emphysema the cause itself of asthma. But, however important a part one may wish to assign to anatomical lesions, it is impossible to admit such theories.

It is very evident that emphysema of the lungs may be developed under the influence of very different causes, and that it is not necessarily accompanied by symptoms of asthma; it enters then into the composition of asthma only by the same title as dyspnœa; it is only a lesion as the latter is only a symptom, subordinated alike to the essence itself of the disease asthma.

I do not wish to go over the pathogeny of asthma here again; I refer you upon this subject to a work that I published fifteen years ago in the *Dictionnaire de Médecine et de Chirurgie Pratiques*. I will simply remind you that for me three elements enter into the constitution of asthma: a special nervous dyspnœa,

a bronchial exudation, and an emphysematous condition of the lungs. However short an attack of asthma may be, these three elements are always to be found. Asthmatic dyspnœa is constantly accompanied by a transitory catarrh and a transient emphysema. To see in asthma only the nervous element, is to neglect two sides out of three of the question; it is to refuse to comprehend the ultimate evolution of the disease and the different aspects it may put on. Let the catarrh become exaggerated in an unusual manner, and you will have a new form of the disease under the name of catarrhal asthma, and in certain cases, rare it is true, in which the bronchial flux becomes extraordinarily abundant, pituitous asthma. If, on the contrary, the transitory emphysema is accentuated, developed and established in a definitive manner, you will have asthma predominantly emphysematous; it is the form which peculiarly answers to what I call permanent asthma.

The majority of physicians, as I have told you, do not reason thus, and consider, in these cases, the emphysema as the primary cause of all the symptoms. An English physician, Waters, author of a remarkable work on pulmonary emphysema, perpetuates this view, erroneous in my opinion, in the division which he proposes of the varieties of emphysema of the lungs. For him there exists two grand divisions of emphysema.

1. An emphysema secondary, lobular, partial, mechanical, which appears in the course of all bronchial diseases, resting stationary and silent so long as the evolution of these diseases is itself arrested, increasing on the contrary, and accentuating itself at each relapse of the bronchical affection—relapse which it invites, in a manner, and the development of which it favors. Observe, gentlemen, that I by no means deny the existence of these secondary emphysemas; but they have nothing to do with asthma.

2. In regard to this first category, Waters admits another variety of emphysema, which he calls primitive, protopathic, constitutional emphysema. Here the oppression, the shortness of breath and the physical signs of emphysema are established and developed outside of all disease; it is only later on that bronchitis appears. The most striking symptom of the disease is *a permanent shortness of breath*, which is exaggerated under different influences—damp weather, intercurrent bronchitis, emotion, painful digestive work. Dr. Waters says this emphysema is a special disease, absolutely distinct from the emphysema secondary to broncho-pulmonary affections. And he sees the proof of it not only in the spontaneous development, but even in the heredity of this form. Gentlemen, I accept without hesitation the division of Waters; his description is perfectly correct. We differ upon only one point—it is that, to me, his protopathic, constitutional form is by no means primitive; it is simply one of the elements of the unrecognized asthmatic triad, or rather it is asthma itself—predominantly emphysematous, permanent asthma. You may have seen in our wards a young patient who, to Waters, would represent to a certainty the type of his constitutional emphysema, and whom I present to you as the clearest example of permanent asthma.

Case 1. Permanent asthma, dating from infancy, with exacerbations; generalized pulmonary emphysema.—A., aged 18 years, admitted the 21st March, ward Saint-Christophe, No. 23, in the service of Prof. G. Sée. This young man enters the hospital a prey to an intense dyspnœa; the face is anxious, inspiration painful, expiration noisy; he rests seated upon the bed, supported upon his hands, making an effort with all his thoracic muscles to cause the air to enter his chest. From time to time cough intermittent, painful, followed by a muco-purulent expectoration, somewhat scanty. The chest is arched; subclavicular fossa very marked. Sonorousness exaggerated throughout the whole extent of the thorax, before and behind. Upon auscultation, obscurity of the vesicular murmur; expiration prolonged, accompanied by wheezing and dry sibi-

lant rales which fill the whole chest. The pulse and the pulsations of the heart are regular; beneath the sternum is heard a soft murmur, systolic, very distinct, of tricuspid insufficiency. There is no malleolar œdema. The urine is clear and contains no albumen.

This patient relates that he is born of robust parents who are living still, and are neither subjects of catarrh nor asthmatics. As to himself, he does not remember ever having had any serious illness, neither whooping cough nor measles. But since his infancy, as far back as his memory goes, he has always had shortness of breath, not being able to play and run with his companions without getting out of breath. This continued oppression would become exaggerated at intervals, especially during winter. Two years ago he is said to have had, on several occasions, attacks of suffocation, which occurred in the night and lasted several hours. Since the month of December last the dyspnœa has been aggravated, accompanied by fits of coughing, with mucous expectorations, and on several occasions quite an abundant epistaxis. Treatment.—2 grammes of iodide of potassium a day.

March 30th.—The dyspnœa is much less; the patient can rest lying upon the back. Inspiration is more easy; the sibilant sounds less numerous. The tricuspid murmur has disappeared.

April 5th.—The patient breathes more easily; expiration is still a little sibilant; oppression upon the least fatigue. The thoracic arch exaggerated, the abnormal sonorousness of the chest and the obscurity of the vesicular murmur persist. The patient leaves at his own request.

To sum up all, to the physicians who will see only the pulmonary lesion, this young man is an emphysematous subject, and, to Waters, he is affected with the protopathic form of emphysema, since this emphysema appears to have been preceded by neither bronchitis nor any other malady capable of explaining its development. To my mind he is an asthmatic. There is one fact which I have, I believe, sufficiently established in an article in the *Dictionnaire de Médecine*, it is that asthma is a disease much more frequent in childhood than is generally supposed. Attacks of asthma may occur about the age of 18 months or a year, assuming a formidable intensity and a peculiar aspect by reason of the narrowness itself of the bronchial tubes at this age. I have no doubt that our patient has had paroxysms of this kind in early infancy, and that the emphysema that he actually presents is only the consequence of these repeated paroxysms. The proof that this is only one of the elements of the pathogenic triad of asthma is that the two other elements, nervous and catarrhal, reappear from time to time in this patient to constitute one of those dyspnœic exacerbations which are nothing else than a prolonged asthmatic paroxysm. You have witnessed one of these exacerbations; if it has lasted three weeks and more, instead of disappearing in a few hours like the paroxysms of classic asthma, it is doubtless to the predominance assumed by the emphysematous element that this persistence must in great part be attributed; but you have seen that the effects of iodide of potassium have not been less happy upon the march of the disease.

Permanent asthma may then appear in infancy; but it is not always so. You will also see it commence in adult life. The two following histories are the proof of it:

Case 2. Permanent asthma, emphysema and bronchial catarrh.—G., thirty-seven years of age, gilder, admitted March 21. Health habitually good up to 1867. At this time, being in Newfoundland, in the capacity of a sailor, he had a serious attack of bronchitis, which kept him six weeks in the hospital. Since that time he has always suffered from shortness of breath, and the respiration has been oppressed without any paroxysms of suffocation properly so called. He coughed easily, and has had bronchitis every winter. He has never expectorated blood. For some years past the oppression has been more marked. Within

the last two years he has entered the Charité twice for bronchitis, with paroxysms of suffocation.

Two months ago the cough became spasmodic and painful, followed by a viscid and mucous expectoration. Paroxysms frequent. He cannot ascend the stairs without being seized with fits of suffocation. At night he often has fits of suffocation, with nocturnal sweats. No œdema of the legs. The appetite is preserved, and the general health good.

Present condition.—He is a man of vigorous enough appearance. Respiration impeded and noisy, being heard at some distance. Cough spasmodic and frequent. Expectoration muco-salivary. Thorax dilated; resonance exaggerated under the clavicles, in the axillæ, and in the middle of both lungs behind, growing a little weaker toward the bases. Rales sonorous and loud, filling the chest in front and rear, accompanied by loud sibilant rales, and a prolonged, hissing expiration. At the base of each lung abundant sub-crepitant rales. The sounds of the heart are dull. No murmur, urine clear, no albumen, no œdema of the lower extremities, appetite preserved, no fever. Iodide of potassium two grammes.

The patient leaves at the expiration of three weeks. The paroxysms of suffocation no longer exist. The patient can ascend the stairs without difficulty but he still has the shortness of breath. The sonorous and sub-crepitant rales have disappeared. There remains only the prolonged and hissing expiration, and a few disseminated sibilant rales. Percussion gives always the same exaggerated resonance.

Case 3. Permanent asthma, repeated attacks of bronchitis, pulmonary emphysema.—M., thirty-seven years old, admitted May 16. Menses regular, and general health usually good. Five children. Pregnant eight months. For five years past, without any known cause, she has had a shortness of breath. She pants as soon as she walks a little fast, cannot ascend a stairway without stopping at each landing. Frequent attacks of bronchitis. She has never had any paroxysms of suffocation at night. She has had a cold for six days, hoarseness, painful cough, without expectoration. Respiration has become very much oppressed and sibilant.

Present condition.—A vigorous woman, facies congested and dyspnœic. Voice hoarse, almost extinct, respiration panting with sibilant expiration. Cough spasmodic, without expectoration. Percussion gives behind as well as before a full, loud, sonorous sound. Coarse and sibilant rales generalized, mingled with mucous rales at the base of the right lung. The heart sounds are weakened; no blowing sound. The urine is loaded; no albumen. The tongue is foul; no appetite. Seidlitz water; two grammes of iodide of potassium.

The twenty-first, the patient demands permission to leave. She breathes much more easily. The hoarseness has disappeared. The respiratory murmur is very feeble everywhere, and covered in places by a few sibilant sounds, but the numerous sonorous rales which filled the chest are no longer heard upon auscultation.

I could quote to you many other analogous observations, for patients of this kind are numerous; but the evolution as well as the aspect of the disease is always the same. These patients are asthmatics, in whom, at the first paroxysm of asthma, the catarrhal element and the emphysematous element assume an abnormal importance. From that time, each new paroxysm tends to reproduce itself with the characters of the first crisis, that is to say, under the form of a more or less prolonged sibilant bronchitis. The patients find themselves, little by little, brought, so to speak, to a state of permanent asthma, aggravated by exacerbations more or less intense, the dyspnœa proper of asthma coming in some way to be engrafted upon the continued dyspnœa of emphysema.

Treatment.—The distinction which I wish to establish between simple em-

physema and asthma of an emphysematous form is more important than you might suppose at first sight. It is not a question only of a simple satisfaction of pathogenic diagnosis; there is also therein a question of treatment which has its own value. All the catarrhal and all the emphysematous patients are sent without distinction to the watering places. How many derive no profit from them! It is because, except perhaps Mont Dore and Bourbrule, the waters avail nothing to asthmatics; never, in such cases, will we obtain any good from sulphurous waters.

But the true treatment of this permanent asthma, as well as of the classic asthma, intermittent, is the iodide of potassium; and not, as I never cease to repeat, iodide of potassium in the dose of 25 to 50 centigrammes, extolled, then abandoned, by Trousseau, but in the dose of 2 to 3 grammes per day. Under this dose, prolonged for a certain time, the exacerbations disappear, the dyspnœa continues to moderate and decrease, the cough and catarrh amend. How many of the pretended catarrhs with emphysema, which resisted for months the classic treatment of bronchial catarrh by sulphurous waters, balsamics, opiates, will you see ameliorated in a few days by the employment of iodide of potassium? It is because, under the catarrhal and emphysematous element, the physician had failed to recognize the real disease—permanent asthma. I will add that the crude mixtures, known under the name of Green's elixir, plain or improved, act only by virtue of the iodide, and that the addition of narcotics and of lobelia is absolutely useless. It is at the utmost if during the first few days it is necessary, in order to prevent iodism, to add 5 or 10 centigrammes of opium per day.

Clinical Lecture on Organic Diseases of the Heart. By Prof. Austin Flint, M. D., New York. Delivered at Bellevue Hospital, New York.

Gentlemen: To-day I propose to give you a kind of practical exercise in diseases of the heart, and, bringing before you a number of cases, none of which I have myself examined, endeavor to call your attention to such points in diagnosis and treatment as may arise in connection with them, and which may be of service to you in your study of this important subject. The first patient being now before us, I will proceed at once to make an examination in reference to his heart, without obtaining any history or asking any questions in reference to his present condition. On looking at the man we notice, in the first place, that he has no embarrassment in breathing, and that there is no cyanosis present. In regard to his heart we note that two movements are visible upon the chest walls, one systolic and the other diastolic. Now let us see whether the heart is enlarged or not. The apex-beat is in the sixth intercostal space, on a vertical line with the nipple, which indicates that while the organ is enlarged, the degree of enlargement is not very great. On auscultation it is found that the first sound of the heart reaches its maximum intensity at this point. The next point is to find out how large a portion of the heart is uncovered with lung tissue. The normal area of cardiac dulness, as you are aware, is of the general shape of a right-angled triangle, and here we find that this area of superficial dulness is at least double the normal size. We have thus made out the undoubted existence of a certain amount of enlargement of the heart. Whether this enlargement is due to hypertrophy or to dilatation is a very simple matter to determine. If there is hypertrophy there will be increased impulse, and if dilatation weakened impulse. It is well to remember, however, that the apex-beat may be feeble while the impulse

above that is quite strong. When this is the case it is due to a change in the shape of the heart, the organ having become more globular in outline. The next point in the differentiation between the two is to find out whether the impulse is of a heaving or sharp character. It is found to be of the latter, which results from dilatation; and we have in this case, therefore, enlargement of the heart with predominant dilatation.

In some cases enlargement of the heart is due to disease of the kidney, in which case the left side of the organ is principally affected, and in others to pulmonary emphysema, where the right side is enlarged. As a general rule, however, this pathological condition is dependent on valvular disease of the heart. There is certainly no emphysema present in this case, and, presuming that there is no kidney trouble either, we will look for evidence of disease of the valves; and as the left side of the heart is far more commonly the seat of such affections than the right, we will make our examination of that first. We may have, as you know, either regurgitation or obstruction present, or both combined, and by means of auscultation we can usually determine what the condition is without difficulty. On applying the stethoscope to the left side of the heart here I get a soft, bellows-like murmur, synchronous with the first sound of the heart, which reaches its maximum intensity at the apex, and which is also transmitted beyond the apex to the left. There is no presystolic murmur noticeable, and we decide, therefore, that there is present in this case a regurgitation from the left ventricle into the left auricle, or mitral regurgitation, as it is called. Auscultation of the aortic valves by placing the stethoscope in the second intercostal space, just to the right of the sternum, shows a negative result. The case, therefore, is a perfectly simple one; the enlargement of the heart depending on mitral insufficiency, which always leads to more or less increase in the size of the right ventricle, as is the case here.

One point of considerable practical interest in such a case as this is to compare the aortic second sound with the pulmonic second sound in order to form some idea of the degree of insufficiency existing. It is known that where there is hypertrophy of the right ventricle the pulmonic second sound is intensified, and in proportion, as a rule, as the aortic second sound is weakened, is the amount of mitral insufficiency present. In the present instance, I may say, there is a condition of affairs which can be tolerated almost indefinitely by the system, and I would warn you, in cardiac affections generally, not to form too hasty a prognosis of impending serious trouble.

Now, in order to make the case more complete, let us ask a few questions of the patient; but before doing so I will venture to predict, with a very considerable degree of confidence, that this man has had acute articular rheumatism at some period of his life. Yes; he says he has had this disease, the first attack fifteen years ago, and the last three years ago. He does not give any history of endocarditis in connection with any of his attacks; but this is a complication which frequently escapes notice altogether. Yet its effects are apt to be of a permanent and serious character, and in this case it has undoubtedly led to the organic disease which is now present. In such a condition of the heart the patient after a time finds that he suffers more or less from shortness of breath in taking exercise which formerly produced no such effect, and that is the chief trouble here. The man says he "gets out of wind," and with this exception he is really quite well. This, then, is a perfectly typical case of simple mitral insufficiency, without mitral obstruction, and without any complicating disease of the aortic valves; typical as

regards, first, the physical signs present; second, the connection of the trouble with acute articular rheumatism; and third, the general symptoms.

Finally, let us inquire what are the therapeutical indications in such a case as this? Too many practitioners under these circumstances resort at once to digitalis. Given a case of disease of the heart, and digitalis is prescribed as a matter of course. But in the present instance digitalis is not called for at all. All remedies which cause depression and disturbance of the system are contra-indicated, first, because they would accomplish no good, and, secondly, so far as they had any effect, it would be an injurious one. What we have to do here is to see what the man needs to put him in the best general condition possible. It is of the most importance to him to have good, nourishing alimentation, and if his digestion is defective he should have appropriate remedies to improve it. In this case there is merely a question of toleration, and as the general system is in good condition, the heart is not likely to give rise to trouble. The patient has now been in the hospital a week, and with the nourishing diet, rest and freedom from anxiety which he has had here, he has in this short time already improved to a very appreciable extent, as I am given to understand.

As to the matter of dyspnœa, it is too much the custom for physicians to tell their patients suffering from cardiac disease that they must be exceedingly careful about taking exercise for fear of evil results, but this kind of advice has a bad effect on such patients. In the first place it keeps their minds continually on the subject of their hearts, which of itself is very injurious, and, secondly, it deprives them of that amount of exercise which is essential to the maintenance of health, and which, indeed, as a rule, they could take perfectly well. The safst plan is to direct such patients to take just as much exercise as they can without inconvenience or discomfort.

In the case of our second patient, whom I now bring before you, we notice on inspection of the chest only one movement instead of two, as in the other, at the apex of the heart, while there is in addition a second movement at the base. The heart is undoubtedly enlarged, because the apex-beat, as you will observe, is considerably lower down than it ought to be. Unlike the former case, it is also found much further to the left than its normal position, a point which leads us to infer the presence of mitral disease. In this respect the first case was an exception to the general rule, the apex-beat being carried so little to the left that it would, perhaps, seem to indicate an aortic rather than a mitral affection. On account of the strength of the impulse of the present instance we infer that there is hypertrophy rather than dilatation of the heart.

On auscultation we get a systolic murmur at the apex which differs from that in the other case in being less loud, much lower in pitch, and not of such a marked bellows-like character. Again, however, there is no evidence of any mitral obstruction; but when we apply the stethoscope at the base we get with each systole a loud, rough murmur, which must, therefore, be a direct aortic murmur. But in addition, instead of the second sound of the heart, there is found another rough murmur, so that we have here a systolic and diastolic aortic murmur besides the systolic mitral murmur. The latter is much weaker in tone than the aortic murmurs, but notwithstanding this it is quite possible that the mitral disease may be more serious than the aortic. The practical lesson to be learned from this is that it is never safe to judge of the gravity of disease of the heart from the intensity and quality of the mur

murs heard. I find in this case distinct evidence of dilitation of the aorta (though not necessarily in the form of a sacculated aneurism) in addition to the cardiac disease. I would warn you, however, never to form a diagnosis of aortic aneurism from the roughness of murmurs heard at the base.

This patient is only twenty-eight, and therefore not of an age which entitles him to have aneurism, which, as a rule, occurs at a later period of life. I am quite sure, however, that there is dilatation of the aorta here, and when this occurs as early as the age of this man, it is almost invariably due to one cause, namely, syphilis. This he denies having had, but as he also says that he has never had acute articular rheumatism, I am afraid we shall have to place the weight of pathological authority against the word of the patient.

On questioning him, I find that notwithstanding the fact that he has an enlarged heart, with both mitral and aortic lesions, he is able to work hard, and that he manages to get along very well altogether with the exception of a pain in his side sometimes. His heart is really much larger than that of the other patient, but he suffers less inconvenience because the valvular disease is compensated for by predominant hypertrophy, while in the other case the heart has reached the limit of its growth. In the latter, the cardiac walls have become more or less thinned, and the predominant dilatation gives rise to greater weakness and interference with respiration.

Our next patient is a Bohemian, who does not speak any English. On inspection and palpation we get two impulses, and find that the one at the apex is not so strong as a second one that is higher up. The apex being lowered and carried considerably to the left in this case also, we have a sufficient basis to warrant the guess that here again there is a mitral lesion. Auscultation reveals the presence of a loud, high-pitched, bellows-like systolic murmur, and there being no presystolic murmur, we form the diagnosis of mitral regurgitation without obstruction, as in the other cases. At the base the only adventitious sound is an indistinct murmur, which is simply a transmission of that heard at its maximum intensity at the apex. We have again, therefore, a case of mitral insufficiency and enlargement of the heart, and as it is the right ventricle that is principally affected in the latter, the pulmonic second sound ought to be intensified as compared with the aortic second sound. I find, in fact, that the difference between the two is so great that it convinces me that it depends on weakness of the aortic sound as well as the intensifying of the pulmonic, and therefore we are enabled to form some idea of the amount of regurgitation that is here present.

In the last patient whom we shall have time to examine to-day, I find again the apex lowered and carried considerably to the left. There is, then, cardiac enlargement here also, and from the character of the impulse there can be little doubt that there is predominant hypertrophy rather than dilatation. The first sound of the heart also indicates this. In hypertrophy the first sound is loud, long, and booming, while in dilatation it is short, weak, and valvular in character. There is once more a mitral systolic or regurgitant murmur, and no direct mitral murmur indicating obstruction. In this case it is quite a feeble murmur, and, therefore, in marked contrast to that heard in some of the other patients. At the base there is found an aortic direct murmur, loud and rough, and an aortic regurgitant, feeble and soft. In connection with this case, I would again impress upon you the caution of not judging of the gravity of cardiac disease from the intensity of the murmurs

present Twenty years ago there was connected with the house-staff of this hospital a young physician who had a well-marked aortic regurgitant murmur, yet ever since then he has continued in the active practice of his profession, and to-day the general state of his health is excellent. If I had time I could tell you of a large number of similar instances. Although this patient has enlargement of the heart, mitral insufficiency, and both aortic insufficiency and obstruction, I will venture to predict that he will do well because his system has already tolerated this cardiac condition for a considerable time, and the symptoms of the case do not now indicate any immediate serious trouble such as we would apprehend if there were present dyspnœa without taking exercise, cyanosis, and general dropsy.—*Boston Medical and Surgical Journal.*

ABSTRACT OF A LECTURE ON CATARRH OF THE NASO-PHARYNX, OR AMERICAN CATARRH. Delivered at the London Hospital Medical College. By MORELL MACKENZIE, M.D., Lecturer on Diseases of Throat.

After defining the disease, and giving a short account of its very meagre literature, the lecturer remarked that the postnasal catarrh was much more common in this country than was generally supposed, but that it was much milder than in America, where it was so universal that it might be looked upon as the national complaint. In referring to the cause of this affection, the lecturer gave the results of his recent observations in America in the following terms :

Though I would not for a moment place my experience of American catarrh on a level with that of any of the eminent specialists who have given attention to the subject in the United States, I may remark that, in a recent tour through that country, I had a very favorable opportunity of studying the complaint ; for I not only saw examples of the disease over a very wide tract of country, but also observed the atmospheric conditions under which these cases occurred—enjoying, moreover, the great advantage, in many localities, of discussing the subject and hearing the views of able physicians who had been studying the affection on the spot for many years. I was greatly astonished at the very wide diffusion of the affection. I met with it all over the Eastern States ; it was very common in Chicago and St. Louis, which may now be called the central cities of America ; I found it prevalent in Nebraska, and, to a slighter extent, in Utah ; and, again, I encountered it on the Pacific coast, finding it very common in San Francisco. I had not the opportunity of seeing any patients in Nevada, as I merely travelled through that State without stopping ; but in London I have treated many American travellers for postnasal catarrh, who had acquired the disease on the alkaline plains of the Silver State. I also saw a good many patients suffering from catarrh of the naso-pharynx in Colorado. In southern California and Arizona I scarcely met with any cases ; and in Canada the affection, though much more common than in Europe, did not seem so universal as in the States. American catarrh, it would seem, principally prevails between latitude 44° and latitude 38°.

My travels in America were made in the latter end of August, and in September and October—that is, during the most favorable season of the year ; and I have little doubt that, had I been there in the winter, I should have seen a great deal more of this widespread ailment. In many of the regions referred to there are local conditions which tend

to irritate the mucous membrane. Thus, all along the entire Eastern sea-board the atmosphere during the winter months is cold and moist, while in the summer it is excessively hot. In San Francisco fogs prevail in the summer months in the early part of the day, while in the afternoon a cutting wind blows continuously. In Colorado, on the other hand, the climate is so extraordinarily dry, that only those who have been there can thoroughly appreciate it. The inhabited portion of the country consists of extensive plains situated at an elevation of 5,000 or 6,000 feet above the level of the sea. The dryness of the climate may be gathered from the fact that not a drop of rain falls during nine months of the year; the result being that no trees can flourish, the scrub oak being almost the sole representative* of our forest-trees, and this being only found in the narrow valleys, or canyons, as they are called. Indeed, so extremely dry is the soil, that not unfrequently all the prairie-grass perishes. The atmospheric conditions, though admirably suited for some forms of consumption, are nevertheless extremely irritating to the mucous membrane of many persons. The white alkaline dust, which covers hundreds of miles in Nevada, is also met with here and there in Colorado. In the winter and spring the winds are often rather strong, and it will easily be imagined that at such times the abundant dust of this extraordinarily dry country is very irritating.

The soil of the American continent differs so widely in different parts that it is impossible to suppose that it is concerned in the etiology of the affection. Again, it will be readily understood that the meteorological conditions over this vast area are so various, that they cannot be regarded as a cause acting with anything like uniformity. The general character of the atmosphere of the American continent, as compared with that of Great Britain, and also with most parts of Europe, is that it is drier, that the changes of temperature are more sudden, and the extremes of temperature much greater. There is nothing, however, in these conditions to account for the localization of the complaint in the naso-pharynx; and it would seem that postnasal catarrh is not due to what may be strictly called climatic influence, but to something which is accidentally introduced into the atmosphere of widely-differing localities; in other words, that there must be irritant particles floating in the air over very wide areas. This is actually the case, for *dust* is to be found everywhere in America.

The universal prevalence of catarrh is, indeed, fully explained by the abundance of dust, both in the country and in the cities. Owing to the immense size of the country, and its sparse rural population, the country roads have not, as a rule, been properly made, and, except in some of the older States, are merely the original prairie tracks. In the cities, notwithstanding the magnificence of the public buildings, the splendor of many of the private houses, and the beauty of the parks, the pavement is generally worse than it is in the most neglected cities of Europe; such, indeed, as are only to be found in Spain or Turkey. It must be recollected also that, while in the decayed towns of the Old World there is very little movement, in the American cities there is a ceaseless activity and an abundance of traffic. Hence, the dust is set in motion in the one case, but not in the other. The character of the dust, of course, varies greatly, according to locality. In some parts it is a fine sand, in others

* The cotton tree, though indigenous in certain parts of South America, appears to be an exotic in Colorado, and I only saw it as an ornamental tree in the streets and gardens of some of the cities.

an alkaline powder; while in the cities it is made up of every conceivable abomination, among which, however, decomposing animal and vegetable matters are not the least irritating elements. An idea may, perhaps, be formed of the state of the atmosphere from a consideration of the fact that in many cities the functions of the scavenger are quite unknown.

That a dusty atmosphere is the real cause of postnasal catarrh is rendered probable by a consideration of the anatomical relations of the naso-pharynx. For, owing to its being a *cul-de-sac* out of the direct line of the respiratory tract, particles of foreign matter which become accidently lodged in its upper part are got rid of with difficulty—most likely by an increased secretion, which, as in the case of the conjunctiva, washes away any gritty substance which may temporarily alight on the membrane. As regards the larynx, irritating dust is expelled by coughing, which may be either reflex or voluntary; and again, in the case of the nasal passages, the minute particles of matter which constitute dust are expelled, if they happen to be obnoxious, either by sneezing or blowing the nose. But reflex acts, such as coughing and sneezing, have no effect on the upper part of the naso-pharynx, and it is only by a voluntary act, known as "hawking," that this cavity can be partially cleared. It is probable also that, owing to the sensibility of the naso-pharyngeal mucous membrane being less acute than that of either the nose or the larynx, minute foreign bodies accidently lodged in the vault of the pharynx do not cause an amount of discomfort at all corresponding to that in the adjacent parts; hence, particles of matter are more likely to remain *in situ* for a longer time in the postnasal region than in either of the other parts, and are, of course, very apt to set up disease. In this country the complaint is most common in persons whose pharynx is large in the antero-posterior direction, a form of throat which facilitates the entrance, without favoring the expulsion, of foreign particles.

While, however, it is highly probable that dust is the most frequent cause of postnasal catarrh, no doubt it is not the only one. Many circumstances favor its development. Some physicians have attributed it to the custom of overheating houses by hot air and steam, as is commonly done in America. In the winter, the temperature is never allowed to fall below 70°, and is generally much higher. The sudden passage from this temperature to that of the street is often not unlikely to set up catarrh; but as the same mode of heating is used in Russia without, as far as I am aware, giving rise to any postnasal affection, its influence cannot be very great. The importance of heredity in the etiology of catarrh has been recently strongly insisted on by Bresgen, ("Der Chronische Nasen und Rachen-Katarrh," Wien und Leipzig, 1883, p. 47); and, although no extensive series of exact observations have yet been made on this point, there is every probability that a disposition to catarrh may be inherited. I have seen so many instances, however, in which foreigners making a short stay in America have become affected with postnasal catarrh that I think there is little doubt that atmospheric conditions—and those, let me add, of an accidental and controllable character—are much more powerful than heredity.

Is the Spleen Necessary for Life?—Prof. Schuethauer, of Pesth, reports in the *St. Petersburg Med. Wochens·hrift* the post mortem upon a woman, aged seventy-one, where no spleen was found and had never existed.

SELECTIONS.

ON URIC ACID: ITS RELATION TO RENAL CALCULI AND GRAVEL. By A. B. GARROD, M.D., F.R.S., F.R.C.P., etc., Consulting Physician to King's College Hospital.

Healthy human urine consists of water, holding in solution both organic and inorganic principles; the former are, urea, uric, and hippuric acid; the latter, chlorides of different metals, especially sodium, and phosphates of sodium, magnesium, and calcium.

It is to uric acid that we must chiefly direct attention; and I must endeavor to show (1) in what state of chemical combination it exists in the urine; (2) why it is held in solution in an acid fluid; (3) what are the causes which lead to its precipitation from the urine; and (4) what are the different shapes which it assumes when it is thus precipitated from its state of solution.

1. At the present day I believe it may be asserted that uric acid, when in solution, is combined chiefly with sodium, but that there are also varying quantities of other bases present, depending on the amounts of different salts contained in the urine. I have already shown that when urate of ammonium is dissolved in blood serum in which the soda salts are present, it is converted into urate of sodium; and, bearing this fact in mind, we can explain the discrepancies which are found in different analyses of urate deposits, both in health and disease. I may, however, say that the deposit which until recently was commonly called lithate of ammonia is composed almost entirely, in healthy urine, of urate of sodium. If, however, the urine at any time becomes ammoniacal from the decomposition of the contained urea, then the uric acid, meeting with a large excess of the new-formed base, gets deposited as urate of ammonium, a salt which is very insoluble.

2. The next point to be considered is the reason of its existence as urate of sodium in a fluid having such a well-marked acid reaction as healthy urine. This fact was for a long time difficult of explanation; but Liebig showed that if to a warm solution of the common phosphate of sodium, which has an alkaline reaction, uric acid be added till it no longer dissolves, the solution becomes strongly acid, and there is contained in it urate of sodium and the acid phosphate of sodium, which latter salt exhibits a full acid reaction, but does not possess the power of precipitating the uric acid. This phenomenon solely depends on the tribasic character of phosphoric acid, which allows of solution of phosphates, which reddens litmus powerfully without containing any free acid.

3. When, however, the least trace of a free acid, even acetic, exists in the urine, the whole of the uric acid is rapidly precipitated; a fact of considerable importance in the study of diseased conditions of the urinary excretion. If our attention is directed to the subject, we see almost daily that, when urine is kept for a time, perhaps only a few hours, the uric acid, which at first was in complete solution, becomes gradually deposited in the crystalline form—a change due to the generation of a free acid in the urine by the occurrence of what is called the acid fermentation.

4. Our last point is to ascertain what shape the uric acid assumes when it becomes insoluble and is precipitated from the urine. It may be thrown down either in combination with a base—that is, in the form of a urate, or as free uric acid. When as a urate, it is often from simple concentration, or from the presence of too small a quantity of water in the urine, and it seldom happens that such a deposition takes place in the urinary organs themselves unless there is a something present, such as a foreign body or the nucleus of a calculus, which greatly facilitates it. When, however, such urine is removed from the body

and cooled down to the temperature of the air, more especially in cold weather, the appearance of turpidity is extremely common, and often becomes, though most unnecessarily, a source of great mental disquiet to patients. When the urine, either concentrated or not, becomes abnormally acid, it at first causes the urate existing in it to be less soluble, but soon afterward the acid itself is separated and deposited in the crystalline condition, forming what is commonly known by the name of Cayenne pepper gravel. Let us take what may be looked upon as pure uric acid; dissolve it in boiling water, and then allow it to cool and crystallize; it will be found in oblong tabular crystals, which are both homogeneous and transparent. When uric acid crystallizes out from urine, it is more or less colored, from yellow to brown, and in the form of thin rhomboidal prisms, showing that there must exist in the urine something which causes an alteration not merely in the color, but also in the crystalline form.

The result of our inquiries, so far as they go, may be summed up in a few words. Perfectly healthy urine should show no appreciable deposit; when, however, it becomes concentrated from deficiency of the watery excretion, then the uric acid is thrown down in the form of a urate. This may occasionally occur within the body, but far more frequently after the urine has been voided; sometimes, however, this change ensues so rapidly that the urine is erroneously supposed to have been passed in that condition. The presence of a solid body in any part of the urinary tract favors deposition very much, and hence urine which would otherwise remain clear may yield a deposit to any substance previously present in the same tract, and may thus add considerably to an already existing calculus. The appearance of the numerous layers so frequently seen around a central nucleus, both in renal and vesical calculi, is thus easily explained. When, however, the urine becomes further altered in composition—if, for example, a free acid is either extracted with the urine or rapidly generated in it through the setting up of the lactic fermentation, the uric acid becomes liberated from its state of combination, and, in a form more or less altered by the presence of colloid matters, is deposited on a previously existing calculus, or is passed as separate rhomboidal crystals or in aggregated masses, constituting gravel or sand. I should feel disposed to confine the name of "sand" or "gravel" exclusively to such deposits which, I believe, seldom form the nucleus or become the starting point of any calculus. I may add that urine possessing these characters is frequently voided for months and years without the occurrence of any appreciable inconvenience to the patient. It is true that a calculus may be augmented by contact with such urine; but, as I have said, it seldom originates in this way.

According to this view, which I feel inclined to adopt, gravel or sand consists of uric acid previously in a state of solution, which has become precipitated by the occurrence of some change in the urinary excretion.

Some individuals pass a larger daily quantity of uric acid than others; but, at the same time, those who pass the largest quantity may have a urine little disposed to deposit the principal; and it will be found, as a result of experience, that changes in the urinary excretion, leading to the crystallization of its contained uric acid, are much more potent factors in the production of sand or gravel than the mere quantity of this acid which is eliminated. If there is a simultaneous occurrence of the two conditions—that is, of increased quantity of the acid and altered state of the urine—this facilitates still more the production of the morbid appearances.

Influence of Diet.—There can be little doubt that the occurrence of gravel and calculus is largely influenced by the diet, but on this subject I feel sure that the opinions frequently held are not altogether correct, and require to be reconsidered. As we shall find that a gouty diathesis is so potent in the production of the disease under review, it will be quite safe, in so far as the discussion of

food is concerned, to assume that what tends to produce gout tends also to develop calculus, and that the diet which is of avail in the treatment of the one disease is equally so in the management of the other. It will be desirable to turn our attention to the principal groups of aliments, and ascertain what influence they have upon uric acid, and also upon its condition with respect to solubility.

Sugar.—The most common of the non-nitrogenized principles contained in food is starch, seeing that it forms 70 per cent. of wheaten flour, and almost the whole of many of the simple amylaceous articles of food, as rice, maize, arrowroot, sago, etc.; also of the potato, turnip, carrot, and so on, when these latter are dried. It can be shown that, when taken into the alimentary canal, starch is soon changed into glucose sugar by the action of the saliva and pancreatic juices; and, when cane sugar is taken, the same change ensues, so that however carefully sugar is avoided as an article of food, it is still abundantly formed in the canal when amylaceous matters are eaten, and the result is the same whether a pound of starch in any of its dietetic forms or a pound of cane sugar be taken.

There is a very popular idea that sugar causes what is termed acidity, and hence it is scrupulously avoided by many. Is this true? Between two or three years ago I was much struck at seeing an American surgeon of great repute putting lump after lump of white sugar into his tea, and I asked him why he did so. He told me that in the States it is a common habit to take sugar thus as a preventive of heartburn, and that he took it for that purpose. His answer made a strong impression on my mind, and since then I have often questioned dyspeptic patients as to their experience on this point. At first nearly all exclaim, "Of course sugar causes acidity," but as yet I have failed to find any one who could assure me, from personal experience, that the eating of lumps of ordinary white sugar produces more so-called acidity than taking any other article of diet. It must be borne in mind that I do not for a moment include sweetened fruits, and such like substances, in the same category as simple sugar. One can hardly believe that the eating of a lump of cane sugar would seriously add to the glucose which is daily produced in the alimentary canal of an individual living on an ordinary mixed diet. Let us see what has been found experimentally with regard to the influence of sugar on the production of uric acid. Böcker says that the effect, in man, is to lessen the quantity of that principle, and Bischoff and Voit have proved that, in dogs, starch produces the same effect on the urinary excretion as sugar, so I think we may say that there is no increase in the uric acid when sugar is taken.

I must devote a few minutes to the discussion of a most important subject—viz., the influence of different alcoholic beverages on the production of uric gravel and renal calculi. We must remember that all such beverages contain alcohol united with different proportions of water, some little more than this; others, however, contain sugar together with coloring and so-called extractive matters, also salts of potash and lime united with vegetable or mineral acids. Many wines also contain a certain amount of some free organic acid. Now, have we any facts with regard to the special effects of different wines in the diseases which we are now considering? I think we have many, and much information which we can use to guide us in the prevention of such diseases. It may, as I believe, be confidently asserted with respect to gout, that, with an absence of alcohol in any shape, coupled with an absence of hereditary predisposition derived from alcohol-drinking ancestors, the disease would be practically unknown.

It is most essential to separate the different kinds of alcoholic beverages from each other in estimating their tendency to produce disease. Thus, alcohol in the form of distilled spirits, although when taken in excess it causes serious

mischief, injuring the liver, kidneys, heart and other organs, still has little or no power of producing the uric acid diathesis, or, at any rate, the gouty development of it. In spirit-drinking countries, or among spirit-drinking families, gout is unknown. Look at Scotland and its whiskey-drinking classes—the disease is practically absent, hardly ever seen in the hospitals. Look at Poland, where they drink a kind of arrack; the same holds good.

When, however, we investigate the influence of wines we shall find a different result. Drinkers of the common light wines, such as the red Bordeaux and the Rhine wines, suffer but little, while, among the same nations, those who indulge freely in beer are by no means free. The natural light wines, in which the alcohol is small in amount, while there is an almost complete absence of unfermented matter, which contain also a considerable amount of acid vegetable salts, are little liable either to produce gout or to lead to the formation of calculus or gravel. On the other hand, the Peninsular wines and those which resemble them, which are stronger in alcohol, contain much unfermented matter, and are almost devoid of the vegetable salts, have great gout-producing power, and lead readily to a condition of urine favorable to the production of gravel and calculus.

We come, lastly, to the malt liquors, ale, beer, stout, and porter. From my own experience, and I believe it is also the experience of all who have attended to the subject, I can confidently assert that these beverages have a great tendency to produce the uric acid diathesis. Compare the hospitals of Edinburgh and Glasgow with those of London; in the former gout is scarcely known, in the latter the disease is common, the difference, as I believe, being chiefly due to the different beverages drunk by the working classes of the two countries; it is, in fact the difference between whiskey and malt liquors.

It is necessary that we should at least endeavor to ascertain what principle or principles, present in some of these alcoholic beverages, absent from others, lead to the development of this diathesis or aggravate it when it is already manifested owing to hereditary or other causes. It cannot be the alcohol alone; this, I believe, can be fully and satisfactorily proved, seeing that large groups of people whose custom is to drink freely of distilled spirits are yet free; instances are to hand in Scotland, Sweden, Norway and Poland. It cannot be the sugar alone; for, although the partially-fermented wines and malt liquors contain sugar, yet sugar added to distilled spirits does not appear to produce the uric acid diathesis. It cannot be the acidity alone; for the wines which are most harmless are quite as acid or even more so than malt liquors and the Peninsular wines, and many people who strongly object to the least acidity in wines will often take lemon juice to an extravagant extent. If, then, neither the alcohol, nor the sugar, nor the acidity by itself is the cause of certain beverages proving so injurious, is it a combination of any of these that does the harm? We already know that the combinations of alcohol with sugar, and that of alcohol with acid salts, are innocuous as far as the uric acid diathesis is concerned. What, then, is there left for us to fall back upon in explanation of the peculiar properties which some of these beverages possess, while others are devoid of them? The only conclusion that I can arrive at with my present knowledge—and it is the result of much thought during many years—is that it is something which is a result of imperfect fermentation, and you will find that it is those beverages in which fermentation has commenced, and has been allowed to proceed to a certain extent and has then been checked, which, of a certainty, cause gout, and probably lead also to the production of gravel and calculus. If I am asked to state more exactly what this principle is, I cannot do so; it may be an influence only, a condition of matter—a ferment.

In connection with this subject, however. I must return for a moment to that of sugar, which I told you had, as I thought, been regarded askance without due cause. I would say that I do not for a moment classify with sugar either

sweetened fruits or vegetables; for I am quite sure that such articles of diet will frequently produce heartburn and other dyspeptic annoyances in individuals who are not in the least inconvenienced by sugar itself. I cannot help thinking that these contain a something which is not simple sugar, but a substance which is the result of the long contact of the sugar with the fruit or vegetable juices, a kind of semi-fermented matter—in fact, that same "something" which exists in the stronger wines and the various malt liquors. Of this I feel confident, that in many cases where sugar, whether by itself or in tea, coffee, and light puddings, do not disagree, and where fresh fruit, although sweet, produces no discomfort, the combination of sugar with these juices, if time has been given for them to act upon each other, will often cause well-marked dyspeptic symptoms. But, it may be said, if so, a ripe orange cannot be a good thing to eat, as it contains both sugar and acid juice, and these substances have been in contact with each other for a long time. I answer, not necessarily so; so long as the orange exists as a fruit, with its botanical structure intact, so long there may be no change taking place between its different constituents. We have a striking analogy to this in the case of the bitter almond. When whole this seed contains the crystalline amygdaline and an albuminous ferment. Separate one of these from the other, and each by itself is innocuous; crush and moisten the almond, prussic acid is immediately formed, and the union of the two principles is the production of a deadly poison.

I must now refer to classes of food in reference to the uric-acid-secreting function; and, first, with respect to the influences of a nitrogenized, and especially of an animal, diet. Observations are not wanted to show the effects of a pure meat diet on the urine. Those of Lehmann are perhaps the most satisfactory. He first determined the daily excretion of the principal constituents of his urine when on an ordinary mixed diet; he then placed himself on a purely animal diet (chiefly eggs) for twelve days; afterward, for another twelve days, on a purely vegetable diet; and subsequently, for two days, on a purely non-nitrogenized diet, which consisted of fat, milk, sugar, and starch. His conclusions are that the total solids, as well as the urea, are much increased by animal food, while they are considerably decreased by a vegetable diet, and still more so by one which is non-nitrogenized; whereas the uric acid is not nearly so much affected by the nature of the food, provided that it contains nitrogen. Thus the urea, on an animal diet, was to the uric acid 53.198 : 1.478; on a vegetable diet, 22.481 : 1.021; and on a mixed diet, 32.498 : 1.183. He found that after the use of purely animal food the urine of man closely resembles that of the carnivorous mammals, becoming of a light amber-color, having a strong acid reaction, and containing neither lactic nor hippuric acid. On the other hand, after a course of vegetable food, the urine becomes of a brownish-red tint, is much less acid, often deposits the earthy phosphates, and always contains alkaline lactates, with oxalate of calcium; in fact, the urine closely approaches to that of the herbivorous mammal.

As a result of all the experiments made by different observers, both on man and the lower animals, I think we may fairly conclude that meat, taken in such quantities only as are sufficient to keep up the nutrition of the body, has no tendency to increase the excretion of uric acid; that, when the diet is purely animal, but the quantity small, the uric acid, far from being large, becomes exceedingly small in amount, more especially when it is compared with the urea. On the other hand, that the taking of a great quantity of meat—an excess compared with the requirements of the system—tends to increase the uric acid, though, even then, not more than in proportion to the urea.

These different facts can be advantageously applied in practice in the treatment of gravel and calculus. In such cases there is certainly no reason why a proper quantity of animal food should not be taken, and the knowledge of this

is important, seeing that many patients have been lowered in health by being kept on insufficient diet, with the idea that by these means a lessening of the excretion of uric acid would result.

Effects of Alkaline Treatment.—In the treatment of uric gravel and calculus the different alkalies and their salts play a most important part. If we give any fixed alkali in the state of a carbonate, it is, we know, absorbed, and passes through the kidneys in an unaltered form—that is, a carbonate, when taken by the mouth, appears as such in the urine, and, therefore, necessarily diminishes the acidity of that fluid, sometimes rendering it neutral or even alkaline, according to the quantity administered; so that if we give, at frequent intervals throughout the day, a quantity of the alkali equal to the neutralization of about thirty grains of oxalic acid—the average acidity of the day's urine—we shall, as a rule, keep that fluid in a neutral state.

In considering the equivalents of the different alkaline metals whose salts are employed in medicine, we find that the neutralizing power for acids of the different bases must vary considerably. The most practical method of estimating this power is to measure the different alkaline metals, in the form of their carbonates, against each other, when we find that seventy-four parts of carbonate of lithium equal eighty-four parts of carbonate of calcium (chalk or its congeners), 106 parts of carbonate of sodium, and as much as 138 parts of carbonate of potassium. It must, however, be remembered that it is not merely the neutralizing power for acids of the above compounds that has to be considered in treating of uric acid disorders; we must also look at the character of the salts which result from the combination of the acid with the metal, for some urates are very much more soluble than others.

It is a matter of clinical experience that lead-impregnation powerfully disposes to the production of gout; and I can also assert, as a result of long-continued observation, that iron salts have a considerable tendency to cause a recurrence of an attack when administered, as they often are, with a view to overcoming debility.

The difference of solubility in the alkaline urates forms a subject of great interest, for the value of a solvent may often be expressed correctly as the product of its neutralizing power plus the solubility of the resulting salt. Let us take, for example, carbonate of sodium. It has been shown that its neutralizing power is large compared with carbonate of potassium, 106 parts of the former doing the work of 138 parts of the latter; but on looking at the table of solubility, it is seen that the soda salt has less than half the solubility of the potash salt. The same remark applies to carbonate of magnesium, as, although it possesses great neutralizing power, the resulting salt is very little soluble, and the very sparing solubility of the lime salt renders its employment as a solvent of uric acid undesirable.

The other properties of the alkaline salts must also be taken into consideration when they are administered as remedies. On comparing a soda salt with a corresponding potash salt, it is found that the latter is more prone to produce diuresis than the former; at the same time, there is good evidence that the alimentary canal and its appendages, especially the liver, are more influenced by soda than by potash. This is what might naturally be expected, seeing that true bile consists essentially of glycocholate and taurocholate of sodium. Magnesia salts act more or less as purgatives, and lime salt as astringents, but all act as neutralizers of acidity, and to some extent as solvents of uric acid. Gravel and calculi usually consist of free uric acid, and even the least soluble of the urates, omitting lead and iron, are much more soluble than uric acid itself.

There is one alkali—lithia—which will require some few minutes' consideration, and upon which I propose to bring forward several new observations and experiments; but, before proceeding to discuss its value, I may make some

remarks on the different salts of the alkalies, some of which are more eligible for exhibition, especially in the treatment of gravel, than the carbonates.

All of us are probably aware that, if an alkaline citrate is given by the stomach, it is changed, either in blood or kidneys, into the corresponding carbonate. The same is the case when an acetate or tartrate is administered; in fact, most of the vegetable salts are thus decomposed in the system, carbonates appearing in the urine. The establishment of this point is important, inasmuch as we can, by the use of these valuable salts, introduce into the system, through the mouth, salts which have no alkaline action on the stomach and often form an important part of vegetable food, and can still produce the remote alkaline influence where it is wanted; in short, we can often give even an acid salt, grateful and useful to the stomach, and yet have the very opposite effect induced upon the urine.

I will now draw your attention to the salts of lithia, which were first introduced as remedies by myself as far back as 1859. If we look to the atomic weight of the metal lithium, we find it very low, only 7. The number representing the carbonate of lithium is also small; compared with carbonate of potassium it is as 74 to 138; hence, the neutralizing power for acids possessed by carbonate of lithium is greater than that of carbonate of potassium in the above proportions. The acid urate of lithium requires only 220 parts of water at the body temperature to dissolve it; the corresponding potash salt requiring 500 parts, and the soda salt as much as 1,130 parts, while the magnesia and lime urates take 1,600 and 2,800 parts respectively; so that, with respect both to neutralizing power and solubility the lithia carbonate has a great advantage over the corresponding salts of potash, soda, magnesia, and lime.

The Use and Abuse of Pessaries.—This subject has before now been discussed from the point of view of the proper selection of cases in which pessaries are or may be useful. The subject has various bearings. In the first place, the statistics of Vedeler and Herman, quoted in this journal, show that anteflexion is more normal than any other condition in multiparous women, and that flexions, as flexions, do not, as a matter of fact, cause dysmenorrhœa. It is impossible to conclude that if flexions do not cause the most direct of all uterine symptoms—dysmenorrhœa—they will cause the symptoms known as indirect or remote, for a test of which we refer our readers to the text-books *passim*, and which include almost every ailment to which female flesh is heir. This being the case, it follows that flexions, as flexions, should not be treated. But, secondly, we will suppose a typical case in which pessaries are known to do good—namely, more or less descent of the uterus, with or without retroversion or retroflexion (which are almost probably indications of descent), and we will suppose a pessary to be inserted—what amount of attention (*i.e.*, attendance) should this entail? Undoubtedly a woman wearing a pessary should not be sent away ignorant of its presence, and without any directions. She should therefore be informed that such an instrument has been inserted; and she should be given certain directions. Thus, it is advisable at once to tell her that it is well to wash out the vagina once or twice a day with simple water, which will prevent secretions from accumulating, decomposing, and causing an unpleasant smell (which in some cases is bad enough to suggest the presence of cancer); she should also be told that soreness, itching, or profuse discharge indicate that the pessary should be seen to, and, generally, that it should not be worn without being seen to three or four times a year. It is also usually advisable that the doctor should satisfy himself in a week or so that the pessary is doing good, and doing no harm, and then, having once started the treatment, the patient should be left to test its efficacy. Now, this test implies the removal of some symptoms or symptom, which may justly be attributed to some former morbid condition, and

it also implies the locomotion of the patient. Generally speaking, a patient lying down is better without a pessary, whatever displacement is present; thus it is rare for even complete procidentia not to reduce itself, or become much smaller, when the patient lies down, and the symptom of partial descent, which (if there are any symptoms) will include almost certainly a sense of weight and dragging pain in one or other iliac fossa, will disappear, or become greatly diminished, in the recumbent position. A pain which is better when the patient is standing and worse when she is lying should be regarded with suspicion if supposed to be due to descent or displacement; it is probably nothing of the kind. Thus it is to relieve pains, increased by standing, that pessaries are most generally useful. If this is not effected, the uterus may be unquestionably in the "normal" position, but the pessary is useless, and, if useless, injurious. Thus, the proper use of pessaries is first, in most cases, after the insertion of the pessary, to get the patient on her legs; secondly, to satisfy one's self in a few days that it is doing good and is doing no harm; but, as soon as both these objects are attained, to send the patient away to test the treatment, with the above directions. It should not be the task of months to fit a woman with a pessary any more than with a truss. The following are *not* instances of the proper use of pessaries. To keep the patient in bed for long periods wearing a pessary; to see her every day, every other day, twice a week, for weeks, months, or years. Perhaps such visits are not made to the patient, but to the pessary. However that may be, it is not the pessary, but the patient who has to pay. What should we say of a surgeon who called for months to see a patient to whom he had given a wooden leg or a truss, and who kept him in bed for long periods; or of an oculist who had fitted a patient with spectacles, and saw him every day for several months, whether the spectacles seemed to suit him or not? It is true that the pessary is a truss in the dark, but that is no reason why the management of a pessary should be a deed of darkness. Recent investigations have shown that the whole question of displacements has to be reconsidered. It cannot be too widely or too dogmatically stated that prolonged treatment by pessaries, such as we have described, is quite inadmissible and unnecessary, injurious not only to the patient—*i.e.*, to her *morale* as well as her purse—but also, in the best sense, to the practitioner; and, if to the patient and practitioner, then to the public and the profession. It should also be realized that a pessary is a mere form of truss, and that its operations, though removed from the general view, are not occult. Ill-treatment bids fair to bring this useful form of truss into disrepute, and we are daily expecting to meet the practitioner whose sensitiveness is such that he shrinks from a cure whose name he has learned to mistrust and dislike; but we feel bound to say we have not come across him yet.—*Lancet.*

Surgical Expedients in Emergencies.—R. J. Levis, M.D., Surgeon to the Pennsylvania Hospital and to the Jefferson College Hospital, read the following at the Medical Society of the State of Pennsylvania:

It is in the experience of every surgeon to be occasionally obliged, in the absence of ordinary means and applicances, to devise resources available at the moment. Such occasions bring the practical character of the surgeon to the test, and on his readiness for the emergency may depend the relief of suffering or the averting of a fatal termination. His reputation, too, may, at such times, stand in the balance of good or ill report, to be turned happily in his favor or gravely against him.

The exigencies of active surgical practice have frequently obliged me to rely on hastily-devised resources, and I trust that the record of some of them which I recall may possibly be of benefit to the profession and a relief to human suffering.

The necessity for evacuating an over-distended bladder is liable to become immediately urgent on occasions when a catheter is not quickly attainable. It is remarkable how often this condition is overlooked by practitioners, until it becomes one of suffering and danger, demanding instant relief. The continued dribbling that often occurs from an almost bursting bladder may mislead or blind one to the grave danger. The absence of a catheter on one such pressing occasion led me to contrive a ready means of evacuating the urine. The recourse was to a piece of iron bell wire, bent double on itself, and the blunt doubled end passed readily through the urethral tract to the bladder. The distention of the urethra by the doubled wire allowed the urine to freely pass between the wires.

A female catheter may be extemporized from a short piece of rye straw, the end of which is to be closely wrapped for a short distance with thread; or the end of the straw may have its sharpness removed by dipping into melted sealing wax. The stem of the ordinary clay tobacco pipe is also efficient for the purpose. Such crude substitutes, when oiled, are readily introduced.

The operation of venesection would probably be more frequently resorted to when needed if a proper lancet, in perfect order, were at hand; but the critical time for relief of an actively congested or inflamed lung or brain is sometimes allowed to pass for want of a ready and certain method of opening a vein. I once, on a pressing occasion, bled a patient at the bend of the elbow, with perfect ease and precision, with but a blunt-pointed and dull pocket knife, by resorting to a simple, convenient expedient. Having put on the usual constricting bandage to distend the veins, I first transfixed the most prominent vein with a fine needle. Thus held securely, it was very easy, with even the dull knife, to cut a valvular incision into the vein, and the blood flowed freely.

For the arrest of nasal hæmorrhage I know of no device so good as one that may be readily extemporized with a strong piece of cord and some small pieces of sponge. The cord is tied securely with a piece of sponge, cut round, and just large enough to be forced backwards through the nostril. Then a number of similar pieces of sponge, with a hole through the centre of each, are threaded successively on the cord. The sponge on the end of the cord is then pushed, with a probe or dressing forceps, through the nostril, quite back to the faucial orifice; and the rest of the threaded pieces of sponge are slid back, one at a time, until the nares is tightly filled. When the patient becomes secure against a repetition of hæmorrhage, the plugging is readily removed, one piece of sponge being withdrawn at a time with the dressing forceps. The posterior nares may also be plugged by introducing either a slender gum bougie or a piece of thick catgut string, with a cord attached, through the nares, catching one end of it in the fauces with forceps, and drawing it forward through the mouth. To the cord which follows, a piece of sponge or pledget of lint is tied, to be drawn up into the posterior nares.

A method of making unirritating and painless pressure within the nares, in cases of obstinate epistaxis, is by a piece of the intestine of a chicken or other small animal, about twelve inches long, partially filled with either air or water. One end of the intestine is, while empty and collapsed, pushed backwards through the nares; when thus lodged the air or water in the other end is forced, by compression with the hand from the pendulous portion, into the part lodged in the nares. Strong, equable compression can thus be made, rendering hæmorrhage impossible.

In a case of hæmorrhage from the inter-costal artery, from homicidal stabbing, I arrested the flow immediately by making pressure within the pleural cavity, directly on the vessel, by introducing into the wound the handle of a door-key. The key was then turned transversely, so as to make direct pressure, and maintained in that position for some hours, until there was no more

tendency to hæmorrhage. The same mechanical action might be effected by the similar use of the handle of an ordinary gimlet.

As a very efficient substitute for Esmarch's elastic bandage, I suggested some years ago, in an article in the *Philadelphia Medical Times*, the use of a bandage made from ordinary flannel, cut bias, so as to increase its elasticity. Such an elastic bandage, from a material almost everywhere at hand, is, I know from experience, perfectly effective.

The hæmostatic action of hot water does not seem to be sufficiently known and appreciated among practitioners. It is so effective, and can be so readily applied, that it may well displace from practice all other hæmostatics. Water at a temperature not beyond tolerance of the immersion of the hand in it, which is a temperature of one hundred and fifteen to one hundred and twenty degrees, is ordinarily all that is necessary; but in some cases not amenable to treatment by ligature, a temperature above 160° F., the coagulating point of albumen, may be necessary.

The absence of a tenaculum may be well replaced by a small fish-hook secured to a penholder.

For dislodging a foreign body in the œsophagus by forcing it downward, an ordinary carriage or riding whip, knotted far enough from the end to insure the proper degree of flexibility, may be an efficient expedient in an emergency.

Materials for splints for the temporary dressing of fractures can be at almost all times extemporized from the materials of wooden boxes and binders' boards. To dress fracture of the fore-arm and of the leg, in a case required to be removed to a distance from the scene of the accident, I once improvised an efficient dressing by breaking into strips some ordinary palm-leaf fans, which were at hand, and bound them on the limbs. I commend the material for its merits of being elastic and conformable to the shape of the limb. Good temporary dressings can also be made from common straw, cut to proper length and bound in layers on the limb.

For a readily made fixed dressing, a plan I have resorted to is with ordinary sand paper as the material. The sandpaper is dipped into warm water to soften the paper and glue, and it is then applied and retained with a bandage. The glue of the sandpaper soon gives rigidity; body and firmness are produced by the sand and paper. Strong fixed dressing, it should be remembered, can be readily prepared and with the familiar domestic commodities of starch, or with the combination of eggs and flour.

In removing a patient with a fractured thigh or leg, the uninjured limb can be made to temporarily act as a splint and take care of the injured one, by simply bandaging the limbs together. It should be borne in mind that many fractures of the long bones can be well treated without any kind of splints. Fractures of the femur are now generally treated without splints. After coaptation is effected, simple extension, by means of weights, is the only essential. Fractures of the clavicle are, I am convinced from practical experience and much attention to the subject, the most effectively treated by keeping the patient in the supine position of the body, with the head alone slightly elevated, to relax the sterno-mastoid muscle, one of the factors of displacements of the fragments. If this position, on a level mattress, is maintained for only a week or ten days, the tendency to displacements is so overcome that a mere sling for support of the arm and shoulder, or other simple dressing, is all that is necessary.

The simple postural method of treatment, without splints, is applicable to most fractures in the vicinity of joints. In fractures of the upper end of the humrus, splints are usually of no real practical advantage, and the injury can be well treated by position of the arm, and by support against the thorax, maintained by adhesive strips, or bandages, occasionally aided by an axillary pad.

The usual fracture of the lower end of the radius, transverse in direction and produced by a fall on the extended palm of the hand, if properly reduced by longitudinal traction and forced flexion of the wrist and hand, has rarely a tendency to displacement if the wrist and hand are maintained in a state of moderate flexion without the use of any splint.

The ordinary splint, applied on the outside of a fractured jaw, is mechanically inefficient for the object, and has no advantage over an ordinary bandage, or handkerchief, applied to keep the part at rest.

Many surgical instruments are made after traditionally complicated forms. Scalpels, bistouries, and needles should not be crooked. I know of no use for curved knives, and the occasions for the use of curved needles may be limited to a few plastic procedures in cavities. The ordinary surgical needle, with its absurd and inconvenient curve, I long ago discarded in favor of the more efficient, simple and cheap glover's needles. A good surgical needle can be readily made from an ordinary sewing needle, broken off above its point and ground to such an oblique point as is given to the hollow needle of the hypodermic syringe.

A common gimlet is an efficient instrument for opening the mastoid cells, in cases of abscess, when there is grave threatening of cerebral complication, demanding prompt action.

The patient use of a carpenter's rasp may safely substitute the trephine, in cases of fractured skull, by cutting away an angle or edge of bone at the point of fracture, and allowing an elevator, such as a small screw-driver, to be inserted beneath a depressed fragment.

In regard to the traditional forms given to instruments, I have inquired of different instrument makers why the sharp, triangular point is made on the ordinary silver probe, but it remains unexplained. I have never seen any surgeon use this curious bayonet-point of a probe, and know of no possible use for it.

The facility with which rectal injection can be performed with large quantities of fluids, by hydrostatic pressure, renders not essential the use of a syringe, if a piece of India-rubber tubing long enough can be obtained. The lower bowels may be distended, in cases of intussusception by injecting water and carbonic acid gas, forced from the ordinary mineral water bottle or syphon, fitted for the rectal tube.

In cases of violent inflammation and traumatic injuries of the eye, needing immediate use of a mydriatic, the universally present stramonium may well substitute belladonna or atropia.

For antiseptic use many readily-produced substances may well replace carbolic acid. None is so cheap and efficient as that most neglected preventer of putrefaction, sulphurous acid, made simply by exposing water to the fumes of burning sulphur in a close chamber. The antiseptic action of a saturated watery solution of turpentine has also the advantage of convenience, of procurement and cheapness. For this purpose turpentine should be kept continually in water and exposed to warmth, and frequently agitated. Diluted alcohol has merits as an antiseptic which have not received proper attention.

Recent investigations have proved that the bichloride of mercury is the most powerful of all germicides, and that it can be used effectively in unirritating dilutions of one part to two thousand or more of water. These readily obtainable substances prevent the decomposition of animal matters, and, without disputing over the germinal, chemical or other theories of their action, all surgeons must admit that putrefaction is the most common factor in preventing the healing of wounds, and that it should be avoided.—*Polyclinic.*

MILK-SICKNESS.—One of the most interesting papers read at the last meet-

ing of the American Medical Association, was that read before the section on medicine by Dr. W. M. Beach, of London, Ohio, which has since appeared in the journal of the association (Vol I., No. 3). Dr. Beach deals with a disease which is probably unknown, even by name, to many readers.

The disease, as it affects the human species, is known by the name of "milk-sickness." It prevails in many parts of the American continent, more especially in Ohio, Kentucky, Tennessee, Illinois, Indiana, and Michigan; but in other parts, as in New England and west of the great American desert, it seems to be unknown. In the Old World, it has probably never been known.

"Milk-sickness" is transmitted to the human species from the lower animals by the ingestion of the milk, the butter, or the flesh of affected animals. Among the lower animals the disease (in them termed the "trembles") attacks chiefly the young and unweaned animals, but it is by no means confined to these. Wild animals are liable to become affected as well as domesticated animals.

The etiology of the "trembles" is by no means clear, and various theories have been advanced in regard to it. By some the disease is attributed to the ingestion of some vegetable poison, such as *Eupatorium ageratoides* or *Rhus toxicodendron;* others have claimed for it a malarial origin; and others have deemed it due to a specific germ. The specific theory, to which Dr. Beach adheres, seems, on the whole, that most consistent with the facts. But while the nature of the poison remains obscure, there are some well-established facts regarding its behavior. The following are described by Dr. Beach as being unquestioned: 1. The "trembles" are rare in wet, and especially prevalent in dry seasons. 2. The poison especially affects wild and densely-timbered lands, and seems to be unknown in lands freely exposed to the sun's rays. 3. The nature of the vegetation does not influence the prevalence of the disease. 4. The poison seems to be impotent during daylight after the fogs and dews have disappeared.

The incubation period of "milk-sickness" is uncertain. In Dr. Beach's experience, it seems to have varied from about twenty-four hours to a week.

As regards the symptomatology of the disease, the prominent symptom exhibited by animals is, as the name given to the disease indicates, the agitated condition of the muscles. At the onset of the trembles, the animal becomes languid and loses its appetite; soon, trembling of the muscles sets in, accompanied by thirst and constipation; the animal becomes unable to rise, and, in most cases, death closes the scene about the eighth or tenth day.

The symptoms of the disease, as it affects the human subject, are very clearly set forth by Dr. Beach in the following terms:

"In milk-sickness the patient is apathetic, complains of *malaise*, weakness, indisposition for exercise, loss of appetite or loathing of food, and sometimes of slight nausea. This condition may run on for several days, gradually becoming more pronounced, when vomiting supervenes, and the patient finally takes to his bed. There are no chills, no rigors, but usually an unsatisfied thirst. The tongue is large, flabby, tremulous, moist, and heavily loaded with a dirty white coating. The temperature of the surface sinks below that of normal. The skin is dry, and sensible perpiration suspended. The abdomen is retracted and flabby, and comparatively empty. Peristatic motion seems absolutely suspended; and from that cause, probably, and the general suspension of alimentary secretion, the bowels become, from the first, obstinately and persistently constipated.

"The breath becomes offensive with an odor that some people claim is peculiar to milk-sickness alone. I am led to believe that this may be so, but my observations do not fully confirm me in the belief. The urine becomes diminished, sometimes to eight or ten ounces a day, and generally clear and limpid. The pulse is variable as to frequency, but is always weak and easily com-

pressible, with labored action of the heart and pulsating aorta. The temperature rises in some cases to 99°, but is usually below normal.

"There is a marked degree of hebetude and indifference, and, even in cases where the patient expresses no hope of recovery, the ordinary solicitude for the future of the family and friends is rarely alluded to.

"There is an intolerance of covering for the body, especially of the extremities; and I recall one case in which the patient would give no rest to the nurses except when they kept his hands immersed in a basin of cold water; and the ordinary efforts resorted to for warming up the extremities usually are attended with an aggravation of the vomiting or retching.

"As the disease advances, the exhaustion becomes so extreme that vomiting is superseded by a feeble retching effort, that heard once is to be remembered always.

"The patient seems to become more and more somnolent; but there is seldom oblivious sleep; and if there ever is, at all, it is of short and fitful duration.

"The vomiting first, and the retching in the later stages, continues to the very close of life; or until coma and oblivion shut it off.

"In the later stage, the fluid ejections from the stomach are tinged like the indigo-blueing water used in laundries.

"These symptoms increase as the disease advances; the hebetude assumes a semi-comatose condition; the respirations decrease in frequency, and are variable—sometimes profound and sometimes scarcely perceptible—like the respirations of a hibernating animal. The prostration sometimes becomes profound, the process of winking suspended, and the conjunctiva and cornea become dry and glazed. The hebetude increases to somnolency, and the somnolency to a coma. There is stasis of the capillaries; the vital forces yield; the patient dies without a struggle."

In mild cases recovery takes place gradually—there are no characteristic post-mortem appearances. The treatment is the use of stimulants by mouth and rectum, combined with the free use of mucilaginous drinks and effervescing draughts.

Sea-Sickness and its Prevention. By J. Henry Bennett, M.D., formerly Obstetric Physician to the Royal Free Hospital.

In his interesting letter on sea-sickness which appeared in the *Journal* of July 7th, Mr. Kendall mentions various modes of treating sea-sickness, but does not speak of its prevention. From twenty-five years' personal experience, and from that of scores of friends and patients, I think I may say that I have discovered a very simple means of preventing sickness, in most cases, in short voyages. This preventive remedy is merely the ingestion of strong coffee some time before embarking.

I discovered the influence of strong coffee quite accidentally. A quarter of a century ago I was travelling on urgent business from Paris to London, and on arriving at Folkstone found that I had an hour or more to dispose of. I went into a café, and ordered a cup of café noir, the strong black coffee frequently taken on the continent, with sugar only; this cup I repeated. The weather was awful, the sea tempestuous, nothing but dire necessity would have induced me to start, and I expected to be ill in five minutes, being a wretched sailor. To my utter astonishment I remained perfectly well throughout a tedious and very rough passage. Indeed, I think I was the only passenger on board who was not ill. This circumstance made me think that perhaps it was the strong coffee that was the cause of the immunity, and subsequent experience has proven that such was the case. To succeed, however, certain precautions are necessary. The coffee should be taken long enough before embarking to insure its absorption; say one hour if alone with sugar, about two hours and a half if with milk. Moreover,

there should be nothing whatever in the stomach; nothing for the stomach to do. To prevent exhaustion, however, a good easily-digested meal should be taken about four hours before embarking. The coffee, also, should be good and strong, unmixed with chicory, otherwise it produces no effect. If sickness ensue and food be thrown up, the conditions necessary, according to my experience, to secure immunity have not been secured, and the non-success is not a real failure. I consider that an infusion of about an ounce and a half of pure coffee-powder is about the quantity necessary. It should be infused (medicinally) in about four ounces of boiling water for ten minutes, say in a warm mug or jug, poured off and drunk with sugar as café noir an hour before leaving, or as café au lait (with milk) two hours and a half before. It is best made at home, and put in a bottle to avoid chicory or English wish-wash.

Contrary to the generally received opinion, I do not think that the stomach being full on going on board is a prevention against sea-sickness. In my experience I find that it promotes and causes it. The poor stomach, full of food, buffetted about, refuses to do its work, and in desperation rejects its contents. I have been at sea nearly a hundred times since then; thanks to the coffee, I have scarcely ever been sick on short journeys (under ten or twelve hours), and very many persons to whom I have recommended the plan have enjoyed similar immunity. The influence must be that of a brain and nerve-tonic, which strengthens the sympathetic nervous system and renders it less impressionable to liquid shocks. I have published elsewhere the opinion that sea-sickness is probably due, in a measure, to disturbance of the circulation by the irregular motion, and to its influence on the sympathetic nerves. All the blood in the body is irregularly banged about by the motion of the vessel in a rough sea. Animals at sea for the first time are as ill as ourselves, especially dogs, and it cannot be fear, for on land fear does not produce sickness with them or with us, unless very exceptionally.

On longer journeys, I advise travellers still to take the coffee in the same way, and then to lie down in their berths. The influence of a strong dose of coffee on the nervous system lasts for eight or ten hours. During this time the body may become accustomed to the motion of the ship. They had better, I should say, take no food, either liquid or solid, until the feeling of thirst or of hunger shows itself. For the first (thirst) a mineral water, soda or Apollinaris, with or without brandy or champagne, may be sipped. For the second (hunger) café au lait, with or without a little bread, may be taken; and, that agreeing, curry, as advised by Dr. Kendall, could be tried.

In the continued sickness of long voyages, many patients of mine have derived immense, and often permanent, relief from the injection into the rectum at night of 15 or 20 drops of laudanum, in an ounce and a half of warm water, to be retained, by means of a small elastic baby injection ball. If not retained, it can be repeated in half an hour or an hour. Sleep is generally obtained, even in extreme cases; and, during sleep, the body may become accustomed to the motion, as will coffee. Some patients have told me, or written to me, after long voyages, that this mode of emplying laudanum has saved their lives. I have proposed, as have others, the hypodermic injection of morphia; but I have no personal experience of its use, and cannot say whether or not it acts better than the injection of laudanum per anum. When on board ship in short passages, I am generally too fearful of personal sickness to be of much use to others, feeling it prudent to remain perfectly quiescent; and I have not made any very long sea voyages.

Probably strong tea, brandy, wine, indeed any powerful nerve-stimulant or sedative, would have the same effect as coffee if taken in the same manner—that is, sufficiently long before going on board to be absorbed, and to leave the stomach empty and quiescent.

Clearly, the usual non-success of remedial agents taken for sea-sickness is owing to the stomach itself refusing to absorb what is put into it once sickness has commenced. A glass of pure water, instead of being absorbed in a few minutes, will often be thrown up an hour or more afterwards just as it was taken. I have often known chloroform thrown up half an hour or more after its ingestion, perfuming the ship with its odor. The rectum is not sick, and has not lost its power of absorption.

A naval surgeon, who had passed a life at sea, once told me that what he had found of most benefit in confirmed desperate sickness was drinking constantly warm or lukewarm water. A jug of warm water and a glass are placed beside the patient, who is told to swallow half a tumblerful when the sickness comes on. It is immediately thrown up, but easily, and by-and-by calm comes. The real remedy, however, is to stay on land, or to return there, if possible; but the coffee plan, judiciously carried out, has shorn the Channel of its horrors in my case, and in that of many others.—*Lancet.*

PROCEEDINGS OF SOCIETIES.

[NOTE.—The weekly medical journals very properly publish the proceedings of societies as soon as the societies adjourn. This journal being a monthly cannot, of course, do this; it will publish, therefore, only such carefully obtained proceedings of American and European societies as are most interesting and instructive.—ED.]

MEDICAL SOCIETY OF NEW YORK.

Dr. Stephen Smith read a paper on

SEWER GASES.

Sewer gas, said he, has been recognized as a powerful factor in the cause of that large class of preventable affections known as "filth diseases." The writer then spoke of the solution of the question of the prevention of the entrance of sewer gas into dwellings, of the far more important question of ventilating sewers themselves, and of the system adopted by the Department of Public Works for the accomplishment of this purpose. Dr. Smith gave practical illustrations of the evils of the present system of ventilating sewers, that is, by means of perforated covers to the man-holes in the streets. He referred especially to Forty-second street, which is seldom free from the odor of sewer gases, and frequently for days and nights together the odor is so intense as to raise the inquiry of the residents as to the possibility of the odor from the gas manufactory miles distant reaching them. In damp, foggy weather the residents have been obliged to close their windows at night to shut out the foul odors. He thought it very evident that this method of ventilating sewers is in every respect objectionable. Practically it is equivalent to having open sewers running through the streets of New York. There can be no effective method of removing the gases of sewers except by apparatus which is aspirating in its operations. The gases should be drawn out by the action of forces which are constant and altogether independent of atmospheric changes, and delivered into the external air at an altitude which renders it impossible for them to penetrate any room occupied by human beings at any time. The subject above considered ought to receive the attention of the Board of Health. In answer to complaints of citizens, and requests that the nuisances be abated, that body refers to the Department of Public Works. Though the sewers are

managed by that department, yet the Board of Health is not thereby exonerated from obligation to protect the public health against the dangers to life or the detriments to health which the Department of Public Works or any other department creates.

The next part was by the Chairman of the Committee, Dr. S. Oakley Vanderpoel, on

THE HYGIENE OF HIGH HOUSES.

The committee protested against the erection of high buildings from a hygienic point. First, with reference to the inmates. Since the inception of this question in building no general epidemic, such as all large communities are liable to, has occurred. Isolation of the sick in all such maladies is a prime factor to prevent spread of the disease. In the buildings constructed having so many families, such isolation would be practically impossible. Either through necessary attendance, contaminated clothing, or currents of air, the epidemic poison would be carried to every occupant, and the persons now eager to secure apartments therein would be as anxious to desert them. The families in the first three stories are to a great degree deprived of sunshine. The importance of this to the thickly-denizened population can hardly be overestimated.

So much of the surface of the lot is occupied both for obtaining room and to give solidity to the high walls, that it becomes necessary to resort to every expedient to procure the necessary circulation of air and ventilation. Chief among these are the air-shafts running from the bottom to the top of all such houses. Into these, windows open either from the inside rooms, or these windows may serve as ventilators to water-closets and bath-rooms. While the houses and plumbing are new no unpleasant effects may follow this procedure, but, as experience has too often shown, defective plumbing in any of the lower stories will allow miasm to be wafted to every story above through the open windows upon these shafts.

For economical reasons, most of the closets and bath-rooms are placed upon one line of piping. Should typhoid fever, or possibly cholera, occur in the lower stories, and any defects exist in the traps above, the poison would contaminate the apartments so exposed.

Second.—Their influence is more baneful upon the surrounding property and streets. Opposite and adjoining houses receive no direct rays of sunshine. The streets remain damp, and of necessity more or less filthy. This constant dampness and lack of sunshine is more or less pernicious. All methods of disinfection and destruction of disease germs depend upon the active oxidizing effect of the material employed. In our streets, next to cleanliness, the most important factor in oxidation is the sun's rays.

These evils are not confined to the residents of the high buildings, but to those also on the opposite side of the narrow streets. Private houses, before cheerful and healthy, become gloomy and unhealthy. Fictitious currents of air are established, which not only make smoking chimneys, but may reverse the currents from the underlying pipe from the roof connecting with the soil pipe. While apartment houses in our crowded population with limited area may be a recognized necessity, a limit of height, regulated by the width of the adjoining street, should be required as a sanitary necessity.

ADDRESS OF THE RETIRING PRESIDENT.

Dr. David Webster then addressed the Society, making brief reference to the work which had been done during the past year in the way of prosecuting illegally qualified practitioners. He was also pleased to be able to note that

during the year a new interest had been aroused in scientific work. More scientific papers had been offered than the limited number of meetings of the society could receive, and the average attendance of the meetings had increased. Notwithstanding the large increase of members, there is still room for missionary work in that direction. Since the law of 1880 went into effect it has been the rule of the Comitia Minora to recommend for membership none but legally qualified practitioners. This rule has debarred several excellent physicians who, having graduated at medical colleges without the State, and not having joined the County Medical Society before the law went into effect, could not become legally qualified without having their diplomas endorsed by the faculty of some duly chartered medical college within the State. These gentlemen have objected to the trouble and expense of getting their diplomas endorsed, and though they have registered at the County Clerk's office, are still practising illegally.

Dr. Webster then read the names of the members who had died within the year, and referred to their work and the influence which they exerted. In conclusion, he thanked the society for the uniform courtesy extended to him while serving it as president.

The Secretary read the resignations of Drs. J. H. Low, M. B. Dubois, W. Thurman, J. C. Lay, and Austin Flint, Jr., which were accepted.

The annual meeting then adjourned.

THE PREVENTION AND TREATMENT OF PUERPERAL FEVER. By T. GAILLARD THOMAS, M.D., New York. Abstract of paper read before the New York Academy of Medicine, December 1883. (*N. Y. Record*).

Dr. Thomas said his motive for presenting the paper was involved in the fact that the plan of treatment of puerperal fever which he should advocate had not been anywhere fully elaborated, or in any single essay carefully systematized. Indeed, the general principles of the plan of treatment had not been universally accepted as orthodox, and the question of intra-uterine antiseptic injections for the cure of puerperal septicæmia was one which would still come up for discussion. While the paper contained nothing which had not been elsewhere as fully and as clearly stated, and nothing which had not already received careful investigation at the hands of progressive obstetricians, the author hoped that on account of his large experience, the presentation of his estimate of the method might prove of some value. At the annual meeting of the American Gynæcological Society, held four years ago, the subject of intra-uterine antiseptic injections for the cure of puerperal septicæmia was up for discussion, and with a single exception he stood alone in its advocacy. Furthermore, he was among the very first, if not the first in this country, who adopted this method, together with early cutaneous refrigeration in the treatment of this disease. Among all the advancements which have been made in obstetrical medicine he regarded none as more important or more signal than that relating to the prevention and cure of the febrile conditions incident to the puerperal state. Brief reference was then made to the views which have been entertained concerning its exact nature, such as a fever due to suppression of the lochia, inflammation of the uterus and peritonæum, specific puerperal fever, uterine wounds, arrest of the process of formation of milk, the doctrine of the multiplicity of puerperal affections grouped under one name, and the doctrine of puerperal blood-poisoning, etc.

Dr. Thomas then directed attention to the condition of the blood in the puerperal woman, first, being favorable to the development of thrombus, and, second, the existence of a tendency to prove most prolific ground for sepsis and zymosis. Besides this, the nervous system is in a plus state of excitement and sensitiveness. With this general condition there existed several local conditions which result from parturition. Before enumerating these, he briefly allu-

ded to the normal condition of the lymphatics, the bloodvessels, and the uterine tissue, and then described the appearances, as could be seen forty-eight hours after delivery. Outside all looks very well, the uterus is simply much larger than the non-pregnant womb, but the inner surface has an unhealthy, diphtheritic look, although free from exudation. There is a large raw, irregular placental site, and small clots can be seen which cover the mouths of the uterine sinuses. The odor from this surface is disagreeable. On examining the cervix uteri there may be found two or three small lacerations, and, in consequence of these, with absorption through them of irritating lochial discharge, the cervix is swollen and œdematous. Examining the vagina, it is found that in two or three places a superficial rupture of the mucous membrane of this canal has been produced. The vulva also presents several solutions of continuity, the fourchette has been torn through, and this rent has extended perhaps through a small portion of the perinæum, and one or two small fissures have occurred in the mucous membrane covering the ostium vaginæ.

Material taken from these surfaces at this stage of the puerperal state, and introduced by inoculation, will give rise to more or less irritation and lymphangitis, but it is not sufficiently poisonous to give rise to erysipelas or angioleucitis. And yet, what are the results of parturition? Recovery is the universal rule unless some unusual occurrence manifests itself to prevent this consummation. Notwithstanding the existence of all these circumstances, which are best calculated to insure a bad result, only one or two of one hundred parturient women die when properly cared for, even in public hospitals.

But now and then all this is changed, and some poison gains access to the genital canal, and acts as rapidly and decidedly as a little yeast added to dough, and striking and alarming phenomena develop, spread, and progress steadily toward a fatal issue. At the morning visit the physician leaves the patient with a normal pulse and temperature, and in an apparently favorable condition. A few hours only may elapse when the patient has a scarcely perceptible chill, with some pelvic pain, the lochia ceases, the milk has disappeared, she suffers from severe headache, a look of indescribable anxiety is upon her face; she has a pulse of 120, and a temperature of perhaps 104° F. The poisonous element has reached the genital tract and the result is already manifesting itself. Suppose, now, that the physician remains inactive, or relies upon medicines given by the mouth which are supposed to exercise some control over this poison, the local conditions in the meantime which favor its admission remaining unchanged. The lymphatics are active, lymphangitis follows, cellulitis, and peritonitis develop probably, and what was originally a septicæmia will emerge into one of those affections which have been grouped under the general name puerperal fever, and pass through all its attendant phenomena.

PATHOLOGY.

At this point the author of the paper proceeded to the consideration of the pathology of puerperal fever, and defined it as a puerperal septicæmia. It matters not whether it assumes a form of phlebitis, cellulitis, lymphangitis, or peritonitis, the essence of the disorder is absorption of poison into the blood of the parturient woman through some solution of continuity in the tissues of the genital tract. As had been well described by Lusk, puerperal fever is "an infectious disease, due, as a rule, to the septic inoculation of the wounds which result from the separation of the decidua and the passage of the child through the genital canal." In other words, he accepted the definition given by Hervieux as long ago as 1870, who defined this disease to be "a multiplicity of affections produced by puerperal poison."

NOMENCLATURE.

Concerning nomenclature, of late an effort has been made by the Dublin school of midwifery to supplant the old term puerperal fever by the use of the word "metria." Dr. Thomas hoped the suggestion would not be adopted, as the word metria does not convey any more accurate idea of the pathology to the mind of the student than does the old term. Of the two terms metria is more objectionable than puerperal fever. On the other hand puerperal septicæmia conveys a definite and clear idea, which appears to be in accord with the truth as taught us by modern pathology, and it should be adopted despite the fact that it is far from being absolutely perfect.

Dr. Barnes had proposed to use the word in its comprehensive sense, employing it to mean that "the blood of the puerpera is empoisoned," and Dr. Thomas was willing to admit this, although he believed in the existence of a specific poison which acted as surely as does a specific poison in the production of typhus or of small-pox. As to the exact nature of the poison we are not yet able to say; nor are we able to say what the exact nature of the poison is in most, if not all, the infectious diseases. German pathologists declare that the round micrococci especially are important factors in the etiology of this group of affections, but this point in bacterial pathology is too unsettled to permit of its introduction into such a paper as the present one. But even if we do not know what the nature of the poison is, we surely know that some such toxic agent exists, and it behoves us to inquire how it can be best destroyed, or how its life and activity can be best counteracted if it gains admission despite our care and watchfulness. There are only two methods by which it can reach the parturient tract. First, it may be carried into the vulva through the atmosphere; and second, it may be carried to any part of the genital tract by the fingers of the doctor or nurse, towels and cloths laid against the vulva, sponges, and instruments, and by bed and body clothing coming in immediate contact with the genital organs. Dr. Thomas then addressed his remarks to cases occurring chiefly in private practice, because even among the wealthy there is a laxity of system and a carelessness with regard to preventive measures which borders closely upon criminality. It is the duty of every practitioner to guard his patient against puerperal septicæmia by every means in his power.

PROPHYLACTIC MEASURES.

1. In all midwifery cases, whether in hospital or private practice, the floor and ceiling of the room in which the woman is to be confined should be thoroughly washed with a ten per cent. solution of carbolic acid, or a bichloride of mercury solution, one to one thousand. The bedstead and the mattress should be sponged with the same solution. All curtains and upholstering should be dispensed with.

2. The nurses and physician should take care that all their clothing is free from exposure to the effluvia of septic infection, such as typhus, erysipelas, septicæmia, scarlet fever, etc., and if there has been any exposure in this direction all the clothing should be changed and the body should be thoroughly sponged with a saturated solution of boracic acid.

3. As labor sets in the nurse should thoroughly wash her hands with soap and water, removing the dirt from under the nails, administer an antiseptic vaginal injection, repeat it every four hours during labor, and keep a napkin wrung out of the antiseptic solution over the genitals until the birth of the child.

4. Both doctor and nurse should wash their hands thoroughly with soap and water, and scrape the nails, and afterward soak their hands for several minutes in a solution of bichloride of mercury (1 to 1,000).

5. The third stage of labor should be efficiently produced, all portions of

placenta should be removed, and ergot administered in moderate doses three times a day, to be kept up for at least one week, to secure complete expulsion of the clots and closure of the uterine vessels.

6. The doctor should take nothing for granted, but at the conclusion of labor should carefully examine the vulva of the patient. If there is any rupture of the perinæum it should be closed at once by suture, and if slight lacerations are found they should be dried thoroughly with a cloth, and equal parts of a saturated solution of carbolic acid and persulphate of iron applied, and again the surface dried with a cloth and painted over with gutta-percha collodion.

7. Within six or eight hours after the termination of labor, syringe out the vagina with an antiseptic solution, and introduce a suppository of cocoa butter containing from three to five grains of iodoform.

8. The vaginal injections should be repeated every eight hours. But in all cases of difficult labor, and in those in which instruments have been employed, they should be administered twice as often, and kept up at least for ten days. The nurse must wash and disinfect her hands before *every* approach to the genital tract of the woman.

9. Employ a new gum elastic catheter which has been thoroughly immersed in an antiseptic fluid each time the bladder is evacuated, rather than trust the nurse to cleanse an old silver catheter.

10. The physician must inform himself *by personal observation*, as to the competency of the nurse, with regard to the use of the catheter, the administration of the vaginal injections, and the introduction of the suppositories.

It might be objected that so many details with reference to the lying-in woman are unnecessary, because of the enormous preponderance of cases in which complete recovery ensues without such treatment, and that to introduce them savors of the performance of some grave surgical operation. So much the more did Dr. Thomas urge them on this very ground, because he believed that the woman who is to bring forth should be treated as though she is to go through a capital operation.

At this point Dr. Thomas made a strong protest against the use of intra-uterine injections as a prophylactic resource, except after very severe operations in the uterine cavity, which rendered the occurrence of septicæmia almost certain.

But suppose that despite all these precautions the poison has entered, what are the most reliable means for checking the advance of the septic disorder? He did not believe there is any specific disease germ which gives rise to puerperal septicæmia. It is probably the same cause which gives rise to septicæmia in the stump after an amputation, or after a wound with compound fracture, or in the lacerated tract after gunshot wound.

A portion of retained placenta or membranes does not give rise to true puerperal septicæmia, but rather to a toxæmia. If the mere presence of decaying material would produce septicæmia without the agency of a specific disease-germ, the disease would develop in healthy country localities.

As soon as the patient is stricken by the poison, certain morbid phenomena develop themselves, such as chill, high temperature, pelvic pain, mental disturbance, headache, pain in the back, and sometimes, though not commonly, nausea and vomiting.

TREATMENT FOR THE CURE.

First.—As soon as the diagnosis is determined upon, all pain and nervous perturbation should be allayed by hypodermic injection of morphine, unless there is some special idiosyncrasy in regard to opium, and throughout the attack, whether suffering in mind or body, the hypodermic use of morphine should be repeated sufficiently often to allay it. In this particular case the

drug should be used hypodermically, and special care should be taken to use a clean syringe, dipping the needle before its use into a solution of bichloride of mercury (1 to 1,000), which will prevent the formation of abscess.

Second.—Being relieved of pain, spread an india-rubber cloth over the edge of the bed, making it fall into a tub of water rendered antiseptic by the use of carbolic acid (two and one half per cent.), or bichloride of mercury (1 to 2,000). Then move the patient very gently across the bed, place a pillow under the head, allow each foot to rest upon the side of the tub, and cover with blankets. Then introduce either a Chamberlain glass tube or a Lyman metallic tube, very carefully guided by the index finger, passing it up to the very fundus of the uterus, attach a Davidson syringe, and throw a stream of water with gentle force against the lining membrane of the organ. If there is any suspicion that there remain attached portions of placenta or membranes, they should be carefully removed, using the finger nails as a curette, as advised by Dr. Wilson, of Baltimore.

There are dangers attending the administration of these injections: first, the entrance of air into the uterine sinuses; second, the production of hæmorrhage; third, the danger of forcing fluid directly into the general circulation through the injection tube into the mouth of the sinuses; fourth, convulsions and violent pain, which produce a sudden and baneful influence upon the nervous system, and fifth, the passage of fluid into the peritoneal cavity through the Fallopian tube. All of these may to a very great extent be avoided by careful attention to details. By the use of a large tube, with water not less than 100° F., and using only a moderate degree of force, proceeding gently, cautiously, and slowly, these dangers can be avoided. The tube should not be allowed to fill the os internum or externum completely. If after the use of the injections it is found that the cervical canal hugs the tube too closely, it should be dilated before further injections are practised, and this may be done by the use of either the hard rubber or Barnes' dilators. If hæmorrhage occurs, persulphate of iron should be added to the antiseptic solution and ergot administered.

The frequency of the administration of the intra-uterine injection should be varied greatly with individual cases. In moderate cases, where the temperature falls readily, only once in five hours may be all that will be required, while in other cases they may be required every three hours, and in bad cases they may be adminstered as often as every hour. These injections should be administered by the physician always, and should be carried up to the fundus uteri, and every precaution exercised concerning detail. Dr. Thomas favored the intermittent stream. For a number of years he entertained the idea that the continuous flow was most desirable, but on that point he had changed his opinion entirely. Continuous irrigation he regarded as a delusion and a snare. For vaginal irrigation it is an excellent method; nevertheless, in severe cases he preferred to employ continuous irrigation and use the intermittent stream every three hours rather than exhaust the patient by the use of injections as often as seemed desirable. At all events, that plan is best which best cleanses the parturient canal.

Third.—Control the temperature by the use of Townsend's rubber-tube coil, placed over the entire abdomen, from the ensiform cartilage to the symphysis pubis, with ice-water flowing through it. In his service at the Woman's Hospital this means of controlling the temperature is as commonly and freely used as are gargles for diseases of the throat, and thus far no ill-effects had been produced, either in the way of chilliness or by the development of complicating diseases, such as pneumonia, pleurisy, etc. Formerly he relied upon Kibber's cot for the same purpose, but had found the coil much more convenient.

Fourth.—Keep the nervous system under the influence of quinine, fifteen

grains night and morning, or Warburg's tincture administered in capsules, according to the recommendation of Dr. John T. Metcalf, or by the use of salicylate of soda.

Fifth.—The diet should consist of fluid food, and the staple article should be milk, but animal broths may be alternated with it.

Sixth.—Efficient and abundant assistants. Two nurses are necessary, one for night and the other for day, and at least one extra physician as an assistant, in order to carry out this method of treatment effectually.

In regard to the antiseptic substances used, they have been thymol, boracic acid, salicylic acid, carbolic acid, and bichloride of mercury. The last two are the best, and the bichloride seems to be about to supersede the carbolic acid, and for intra-uterine injections it should be used in the strength of 1 to 2,000.

Montgomery County, Alabama, Medical Society Memorial Meeting, Nov. 29, 1883.

At a memorial meeting of the Medical and Surgical Society of Montgomery County, held in the rooms of Dr. S. D. Seelye, the following preamble and resolutions, expressive of the sense of this Society regarding the death of the late Dr. J. Marion Sims, were adopted:

Your committee appointed to report suitable resolutions expressive of the sense of this Society regarding the death of Dr. J. Marion Sims, beg leave to report as follows:

When a great man dies his death is not merely a grief to his immediate family and personal friends, but the great world in which he has acted feels his loss, and stops in its busy life to express its sense of bereavement. Particularly is this so when that life has been spent in efforts to relieve human suffering, and thus add to the sum of human happiness. A warmer emotion actuates them, the heart throbs more quickly, the tear of sorrow starts to the eye unbidden, and a sense of personal loss mingles with the general grief. But with the members of the Medical and Surgical Society of Montgomery County not only is our grief at the death of Dr. J. Marion Sims a part of the general sorrow: he was nearer to us than to the world at large; endeared to most of us by delightful personal acquaintance, and to a few of our members by years of fellowship and brotherhood in the practice of his profession here.

In the resolutions which we pass to-night we express not only a mede of honor to a great man, but our heartfelt sorrow at the loss of one personally endeared to us; therefore

Resolved, That in the death of J. Marion Sims, an honorary member of our society, we feel the deepest personal and friendly grief, as well as a deep sense of his loss to our profession and to the world;

Resolved, That with our grief mingles also thoughtfulness to the Giver of All Good for the long life of usefulness accorded to him, and for the gentle loosening of the vital cord at the end of a life well lived;

Resolved, That, as a society and individually, we tender to his sorrowing family our most hearty and earnest sympathy in their bereavement;

Resolved, That the minutes of this meeting be entered on our record as a memorial, and the pages bordered with black; and that a copy of the same be furnished to the family of our deceased brother, and also published in the Montgomery *Advertiser*.

S. D. Seelye, M.D.,
W. O. Baldwin, M.D.,
R. F. Michel, M.D.,
J. F. Johnston, M.D.,
} Committee.

MEDICO-CHIRURGICAL SOCIETY.

IN a paper in the Medico-Chirurgical Society's Transactions, read on "The Solvent Treatment of Urinary Calculi," Dr. W. Roberts, of Manchester, came to the conclusion that potash carbonate dissolves uric acid more rapidly than the soda salt. This he ascertained by placing sections of uric acid calculi in phials, and causing currents of the different solutions, at blood heat, to pass over them at a regulated rate. He also found that the strength of the solution employed was of much importance, the greatest amount of solvent power being exhibited in solutions containing from forty to sixty grains of the alkaline carbonate to the imperial pint (twenty fluid ounces). Below this strength the power of the solutions gradually declined, until, with those which contained less than three grains to the pint, the solvent power scarcely exceeded that of water. On the other hand, if the strength was above sixty grains to the pint, the pieces of the calculus became incrusted with the alkaline biurates which were then deposited, and thus the further action of the solution was impeded. This was especially noticeable when the strength of the solutions was much above 100 grains to the pint. Even without the actual experiment with pieces of uric calculi, I think we could predict that potash would prove a more powerful solvent than soda; for we have only to glance at the table to see that urate of potassium requires, at the body temperature, only 500 parts of water to dissolve it, whereas the corresponding soda salt takes as much as 1,130 parts. The soda salt certainly has an advantage in its greater neutralizing power, but not sufficient to make up for the far less solubility of the resulting urate. In the paper referred to, and in his book on "Urinary and Renal Diseases," Dr. Roberts has the following foot note: "Some experiments were also made with carbonate of lithia, which has been vaunted in recent times as a solvent for uric acid. Its power was found much inferior to that of carbonate of potash and soda. Its reputation seems to have been gained through its comparative insolubility. Only weak solutions of it could by employed." I refer to this passage because other authors have evidently been influenced by the statement; for example, Sir Henry Thompson, in his little work on "The Preventive Treatmeat of Calculus Disease," says: "Doctor Roberts finds carbonate of potash to be the most powerful solvent; better than soda, much better than lithia."

But I think that lithia salts are far more powerful solvents of uric acid than potash salts, while these latter are more efficacious than those of soda. We have only to take three small phials, filled with a solution of the three carbonates, of the same strength, and to put into each the same quantity of small uric calculi, the amount being such that the lithia will dissolve them. If we carry these in a warm pocket, after a short time it will be seen that all the calculi have disappeared from the lithia solution, while more than half are left undissolved by the potash, and about four-fifths by the soda solution.

I have been informed by some patients that they have been deterred from using lithia salts, although they had found them valuable, by having been told that their employment would prove injurious, owing to their caustic effects upon the renal organs. In answer to this objection I may say that I have found the action of carbonate of lithium to possess less destructive power than the corresponding salts of potash and soda upon animal tissues.

The only effect that I have ever noticed has been that, when the quantity is increased beyond a certain amount, a little tremor of the hands is produced, which passes off at once on the diminution or omission of the dose of the salt. I have known patients, of their own accord, continue the use of lithia salts for more than ten years, with the effect of entirely preventing the recurrence of the symptoms to remove which they were first prescribed, and without the production of any injurious effect. For myself, I have not the least doubt as to the

value of lithia salts as therapeutic agents, and am convinced that, by their employment, depositions of uric acid in the renal organs can to a large extent be prevented. Free dilution and administration on a fasting stomach are points of much importance, which should be attended to in the administration of alkaline remedies. I have been much in the habit of using potash with lithia, in the form of the citrate or the carbonate; the former to give neutralizing, the latter to increase the solvent power.

I do not believe in the value of any injections into the bladder in the treatment of vesical calculus; at the very best, the process must be most tedious; and at the present day, when the surgery of the subject has reached to such great perfection, when a calculus can often be removed completely from the bladder in a few minutes without the use of the knife, I cannot but think that the surgeon is better qualified for the treatment of such cases than the physician.—*Lancet.*

SANITARY DEPARTMENT.

On the Advantages of Low Ceilings in Small Houses. By John Honeyman. Read at the Sixth Congress of the Sanitary Institute, Glasgow, September, 1883.

The height of the ceiling affects both the owner and occupier of a dwelling, but chiefly the occupier; for whereas it affects the owner's pocket only, it affects both the pocket, the comfort, and the health of the occupier. If the owner is perfectly free, he will simply adopt the height of ceiling which he thinks will enable him to get the largest return from his property. It by no means follows that he will adopt a low pitch. He may think that high ceilings will make his houses more attractive; in certain circumstances yielding higher rents, or at least securing a better demand or a better class of tenants. But if the ground he builds upon is dear, and the demand for houses great, he will be tempted to make the stories low, and increase their number; and in so doing he will be doing what is at once best for himself, and also—unless he makes the rooms small as well as low—what is best for the community.

But in most of our large towns and populous places a person about to build is not free. He must build in conformity with regulations limiting the total height of his building, and prescribing, among other things, the height of ceilings, and the cubic capacity of rooms. Hampered by such restrictions he cannot suit his houses to the requirements of the districts where they are wanted; he must make them as Parliament has been pleased to prescribe, however extravagant or unsuitable for the people who require them, and he must get a profitable return for his expenditure from these very people who do not wish extravagance, and cannot afford to pay for it, but who in the circumstances either must pay for it or do without dwellings. For example, if the Police Bill drafted by the Corporation of Glasgow became law, a man having land bounded by a new street forty feet wide would not be allowed to erect a tenement of dwellings in that street more than two stories high, with this necessary result—that his return for the cost of land and buildings must be got from two tenants instead of from four or six. If left to his own discretion he would, at a small additional outlay, make his buildings, say, four stories high, and—profitably to himself—accommodate on the same ground twice the number of tenants at lower rents. Now, assuming in the meantime that the four houses erected in this way were as good as the two made in conformity with the Police Bill, it must be perfectly obvious that, whether the owner made more out of the transaction or not, the erection of the

four would be distinctly most advantageous for the tenants, and therefore for the community at large; because in this way twice the number of people would get accommodation where they want it—not where the Corporation say they ought to want it—and they would get it at a greatly reduced rent; both, I submit, considerations of the very greatest importance, and having a direct bearing on sanitary questions of great interest. Of course, if it could be proved that high ceilings and low tenements were essential to secure healthy conditions, a great deal could be said in favor of compulsory sanitation in that direction, although even in that case I should be prepared to say a great deal against it; but it has been abundantly proved—and this was very clearly brought out at the Newcastle Congress—that there is no necessary connection between density of population and a high death-rate; and, I may say, that the very same statistics—namely, those of the various improved dwellings' companies—which most conclusively prove this, as conclusively show that there is quite as little connection between low ceilings and a high death-rate; as in all these dwellings the ceilings are low and the stories numerous. Most people, however, in this part of the country, at all events, I may venture to say most sanitarians, still cling to the idea that—*ceteris paribus*—a room with a high ceiling is a more healthy dwelling than one with a low ceiling. Now, I wish to strike at the root of this prejudice, which, as affecting legislation, has had and may, unless eradicated, still have most pernicious results; and I hope to be able to prove that, other things being equal—that is, that, given two rooms of different heights, but of the same capacity, having the same size of chimney opening, the same area of window, door and vent openings, the lowest will be the cheaper, the more commodious, the more comfortable, and the healthier dwelling of the two.

I shall dwell chiefly on the sanitary aspect of the question, merely devoting a sentence or two to the other important points I have mentioned. One of these, the greater extent of floor area in a low than in a high room of the same capacity, is self-evident, and the advantage of this to the occupant is equally obvious. The economy of the low pitch is not quite so readily understood. For the sake of illustration, I have calculated the rents which must be charged for houses of 2,000 feet capacity, in order to yield five per cent., arranged in three different ways—first, in tenements of two stories of ten feet; second, in tenements of three stories of eight feet; and, third, in tenements of four stories of eight feet; allowing a proportionate area of vacant ground in each case; and I find that in the first of these—the two-story tenement—the rent would require to be £9 6s., in the three-story tenement it would be £8 5s., and in the four-story tenement, £7 14s.; so that the artisan contented with an eight feet ceiling might have a roomier house for £7 14s. than he can possibly get for less than £9 6s., where restrictions, already referred to, exist. In other words, he is compelled to pay £2 8s. per annum, or fully a third more than might otherwise be required, and at the same time he must be content to occupy a smaller house in a less convenient locality, without one solitary compensating benefit, merely because some sanitarians, chiefly municipal, think such treatment good for him. To my mind it is unmitigatedly bad, and a very serious matter for our working classes. For observe, it is impossible to take this £2 8s. out of the owner's pocket, the tenant must pay every penny of it, as, of course, no builder in his senses is going to put up dwellings which will not yield him five per cent. at least.

But the important question remains—would the low house be healthy as well as cheap and roomy? In my opinion it would, and in a greater degree than the high house. The means of ventilation, which alone are admissible in such dwellings, being of the simplest possible kind, it will be found that it is easier to ventilate a low room than a high one by their agency. Practically, the ventilation must be effected by the admission of fresh air by the doors and windows (or round these when closed), through the badly-fitting joints of floors and

skirting-boards, or by special inlets not intolerable to the inmates (if such can be devised), and the extraction of air by the chimney. Such means have been found sufficient, except where apartments are overcrowded—that is, except where the chimney is insufficient as an extractor. We may take it that in any room having a door, a window and an open fireplace, three or four people may sleep safely, and the condition of the air will depend not so much on the capacity of the room as on the area and draught of the chimney. Those who are familiar with the subject will, I trust, excuse me if I say, for the information of others in this mixed audience, that even such a capacity as is prescribed in our Police Bill (400 cubic feet to each adult) is utterly insufficient, unless we have along with that a constant and rapid change of air. But to effect this change, so that the whole volume shall be kept up to a safe standard of purity, it is necessary that fresh air should be properly distributed, and permeate the whole apartment. This point, I fear, is sometimes lost sight of. For example, if we take a room of 2,000 cubic feet, with five inmates, to keep the air, not as pure as we could wish, but in a tolerably healthy condition, at least 5,000 cubic feet of fresh air would require to be passed through the room per hour; and as an ordinary open fire will easily extract that quantity, there seems to be no great difficulty about it. But, observe, it is quite possible to pass all that quantity through the room without purifying the atmosphere in any appreciable degree; we may let it all in at one side of the room and up the chimney at the other, leaving the air breathed by the inmates impure and poisonous, perhaps fatally so; the more complete the distribution of the fresh air, the more beneficial will the ventilation be. Now, the facility of distribution will depend, to a large extent, on the form of the room. If the room (always bearing in mind that we are speaking of rooms of the same cubic capacity) be high in proportion to its area, and the fresh air be admitted in the usual way referred to, the lower part only will be ventilated, and a large proportion of its atmosphere will remain impure; whereas, if it be low in proportion to its area, it will be well ventilated, and the inmates will get the full benefit of the room's capacity. In the other case they would not, as a considerable proportion of the high room would remain stagnant and foul, a condition objectionable on other grounds.

But, it may perhaps be said, granting that the air in the upper part of the room, say a fourth of the total volume, remains unaffected and that the 5,000 feet per hour allowance is distributed in the lower part only, is that not exactly where the fresh air is wanted? Certainly, but fresh air is not *the only thing* that is wanted in an artisan's house. Warmth and freedom from draughts are only second in importance, if, indeed, they are second. There are delicate women and tender babes to be considered as well as robust men, and our mortality tables painfully remind us of the fact that that consideration is far too much overlooked. No doubt by the passage of a given quantity of air through a room you can make a part fresher than the whole, but it is evident that as you reduce the part affected you necessarily increase the velocity and lower the temperature of the current; indeed, you can without difficulty carry this reduction so far that, with the aid of a good-going fire, you may obtain a very high standard of purity and a cold draught, of perhaps 150 feet per minute, in the only habitable part of the room, that is, the only part where the air is fit to be breathed. Our object, of course, must be to make every part of a room habitable, and to leave not one stagnant corner in it. In this way alone can we secure in the highest degree both essentials of a healthy dwelling—pure air and warmth. Now, we shall find that the lower the ceiling the more easily can this combination be secured.

Let us look a little more particularly at the superior facilities offered by the low room. The top of the door, from which I think the greater part of the air required should come, is necessarily near the ceiling, and the current will there-

fore completely disturb the upper stratum of air. The air from the window will have the same effect in a smaller degree, and both currents will be warmed by contact with the ceiling. We need never look to the floor as an air-warmer, except to a limited extent near the fire; a much larger area of the ceiling is heated, and in a low room there is not only a much larger area of ceiling to heat than there is in a high room, but the radiant heat upon it being more intense, it becomes an air-warmer of immensely greater power; and, obviously, this extra power in a low room can be used either to raise the temperature of the room, or to raise a larger supply of air to the same temperature. Besides, if in this way we are able to admit more fresh air near the ceiling, we shall also, in like proportion, be able to reduce inlets at a lower level, and to that extent get rid of cold draughts. Practically, the quantity which can safely be admitted is limited by the means of warming it; the more we can warm, the more we can safely admit. I insist very much on the importance—the absolute necessity—of this heating in connection with the ventilation of small houses. Some people seem to think that hot air and foul air are synonymous terms; it would be much more correct to say that cold air and foul air are synonymous. If the fire burns up, and the room becomes overheated, the window will soon be opened, and even if the atmosphere remains warm it will be wholesome; but where the fire burns low, as the winter evening closes, and the ill-clad mother clasps her suffering infant to her breast for warmth rather than for nourishment, what wonder if we find the air close and impure, and every inlet and crevice stopped with what we are pleased to call "perverse ingenuity?" If we wish the occupants of small houses to admit plenty of fresh air we must not only convince them that it is good for them, we must show them how to do it without sacrificing something else which is good also—which is even better in their estimation—namely, comfort.

In conclusion, I desire earnestly to invite the attention of Scotch local authorities to this subject. It is clear that if I am right in the views I have advanced —if it is the fact that from a sanitary point of view a low ceiling is as good as a high one—much more if it is better—municipal authorities are utterly wrong when they prevent by legislation (as some have done, and others wish to do) the erection of low-ceilinged houses. It simply comes to this, that by such regulations they wastefully increase the rents which the working classes must pay for house accommodations, and thereby in the most direct manner encourage over-crowding, with all its attendant evils; while at the same time they effectually prevent the erection of improved dwellings, such as are now common in London and elsewhere in England. Within the last few weeks I have seen in a street twenty feet wide an admirable tenement of artisans' dwellings seven stories high. According to our draft Police Bill, the height would have been restricted to one story—one family only would have been allowed to dwell where it has been proved to demonstration that seven can be housed with much more comfort and much less expense. Surely it would be difficult to imagine a more striking illustration of the mischievous effect of misdirected sanitary zeal.—*Sanitary Record.*

THE GENESIS OF FILTH, ESPECIALLY IN STABLES. An open letter from Professor MUCKSLEY, F.R.S., to Dr. John C. Peters.

Editor of The Sanitarian—DEAR SIR: Although a stranger to you personally, I am well acquainted with yours and Dr. Peter's writings and opinions. I have formed the belief that you are very moral and tidy medical men, who hate all moral and physical filth, and are also greatly puzzled at their occurrence at all. Like the little boy who was asked to name the points of the compass, and replied: North, South, East, West, and up and down, you, when asked about the causes of disease, invariably answer: Heat, cold, dryness, moisture, filth,

and malaria, or bad air. You look upon filth as the greatest, or the up and down of all these; the "very-evil" or "Deevil," and it is; and you ask, "wherefore is this thus?" How would it be, if before the "Fall of Man," and of the apple, when lions and lambs lay down peaceably together, and war was not, and Cain had not killed Abel, and death, decay and filth were unknown; if the whole internal economy of animals and men were very different from what they now are, and what they must have been when Noah and his family were together in the ark, for 197 days, with pairs of every living thing, two of a sort, male and female, of beasts, clean and unclean, cattle of every kind, and fowls and birds after their kind, and every creeping thing of the earth.

The ark, you know, was three stories high, and had only one door and one window, which hermetically closed; there was no ventilation, and there was no filth. There was no typhus fever from overcrowding; no typhoid fever from fæcal-filth; no malignant sore throats or diphtheria from impure air; no scarlet fever, even among horses, or measles among pigs from irritation of the skin or impurity of blood; there was no relapsing or famine fever, and no malarious or bad-air diseases of any kind. Their lungs may have exhaled pure and fragrant oxygen, hydrogen and nitrogen; hence, they not only required no water, but for food, like the plants, consumed all carbonaceous products, so that there was no r.fuse of carbonic oxide, nor carbonic acid gas; much less any sulphuretted or phosphuretted hydrogen, or putrid albuminoid ammonia, or disagreeable sulphide of ammonia, which comes nearer causing typhoid fever than any other known substance, gaseous or cosmic. Their stomachs, bowels, livers, kidneys, etc., of course were as idle as Dr. Tanner's, or secreted nice things in very small and precious quantities, like musk and castor are now formed. Nasty bile was more like myrrh and frankincense; uric and hippuric acids, were nearer akin to benzoic and cinnamic acids, into which they are even now so easily converted by skilful chemists. The scanty droppings of the animals and men were not like the Prophet Jeremiah's "naughty figs," and vicious apples, but more like the golden oranges of the gardens of the Hesperides, and Prunus Virginiana and Boletus Bovinum. It is well known that chemists and even common manufacturers now make "fruit essences" artificially, all of which, with the exception of the essence of orange, are rarely, if ever, made from the fruits after which they are named; but mainly from acetic and formic ethers, in combination with other compound ethers of methyl, ethyl and amyl. It is well-known that the essences of pineapple, muskmelon, strawberry, grape, apple, pear, lemon, wild cherry, apricots, peaches and plums are thus made and sold every day. In this view of the matter the stupendous miracle of Noah's ark sinks into insignificance in face of the Almighty's powers, in comparison with which man's are the merest trifles.

But, Dr. Peters, if you go into stables, now, in search of scarlet fever, measles, malignant sore throat, diphtheria, strangles and cerebro-spinal meningitis, you will find them; for the latter is only a foul air rheumatic fever, or inflammation; the throat affections are merely bad colds taken in foul air; and the first are skin diseases caused by acrid exhalations, You will suffer much from the "shameless innocence" of animals, and the stolid ignorance and stupidity of stable-keepers and hostlers. Whatever you do or say, like Lady Jane Grey, you must "do it, as it were in soch, weight, measure and number, even so perfectlie as God made the world, or else I [you] am [will be] so sharply taunted, so cruelly threatened, yea, presentlie sometymes received with pinches, nippes, and bobbes and other injuries and which I will not name." * * * You, too, will be in danger of nips and kicks and snorts and snarls and sneezes and breezes; you will not find nice aromatic hartshorn, or even "thieves' vinegar;" and will see things that will remind you more of assafœtida and asarabacca than of frankincense or musk. You will miss what Milton calls "the

delicacies of sight and smell, and fruits and flowers, and clean walks, and the melodies of birds;" but find something more akin to the so-called "German Delikatessen," or delicate eating, or delicacies which are made up of high-smelling Limburger cheese, rank Bologna, or other sausages, and odorous stock fish, with an ancient and fish-like smell. You will think, with Addison, that "the great and innocent are insulted by the scum and refuse of animals;" and again, with Milton, that

> "Nature breeds
> Perverse, all monstrous, all
> Prodigious things
> Abominable, unutterable and worse."

And exclaim, with Spencer: "A huge and horrible mass it seemed!"
And may, with Burke, have to shout:

> "The consequences are before us; they are
> About us; they are upon us."

And with Tillotson: "Animals are sincere; but not *sine cera, i.e.*, not without wax in their honey."
And again, with Spencer:

> "He travels by the weary, wandering way,
> And meets a flood that doth his passage stay;
> But not great grace to help him over past,
> Or free his feet that in the filth and mire stick fast."

You will find no semi-celestial animals with breaths as fragrant as sozodont, nor even the pseudo-divine afflatus of the ancient augurs and sybils. Instead of nice aromatic infusions of horse-mint, catnip, or even cowslip, you will find something more like stale, musty beer, and have "to cheese it."
If you will kindly inform me, in the next number of the *Sanitarian*, how you would go to work to cleanse and purify filthy stables, your common hygienic and chemical way may, perhaps, teach you and others how to do these things according to the high and transcendental way that is above faintly hinted at.

Yours very sincerely and respectfully,

A. S. Mucksley, F.R.S.

Concerted Action by State Boards of Health.—A meeting of representatives of State boards was held at Detroit during the recent meeting of the American Public Health Association, at which it was decided to call a meeting of the secretaries of other representatives of all State boards of health, in Washington, during May, 1884, for purposes of conference, and with the view of organizing a section devoted to State board work in the present association, or the formation of a permanent separate organization specially adapted to the needs of State boards of health. Dr. Henry B. Baker, of Michigan, and Dr. J. N. McCormack, of Kentucky, were appointed a committee to confer with and secure the co-operation of all the State boards in fulfilling the object of the meeting, and Dr. C. W. Chamberlain, of Connecticut, Dr. J. E. Reeves, of West Virginia, and Dr. Stephen Smith, of New York, were appointed a committee on organization, to report at the meeting in May. The American Medical Association meets in Washington in May; and another reason for holding the meeting in Washington is said to be that the representatives of the State boards may also have an opportunity of conferring with the senators and representatives in Congress, from their respective States, in regard to national sanitary legislation.

PHARMACY AND THERAPEUTICS.

RHAMNUS PURSHIANA.—The reappearance of reports on this drug, which a few years ago excited such a considerable degree of professional attention, has characterized the periodical literature of the latter months of 1883. The cause of this renewed attention to this drug on the part of medical writers is more directly traceable to the interest which it has excited during the past year in Great Britain. The *British Medical Journal* has contained a number of very flattering reports on its efficacy, and the other journals have contained similar reports. The drug seems to have obtained a very strong foothold among our conservative brethren of the British Isles, and judging from the reports which have been given of its action in their hands, it is fulfilling the requirements of a tonic-laxative in that country.

The *Therapeutic Gazette* for December contains a symposium on cascara sagrada, from which we select some facts which do not seem to have been very generally familiar. Dr. C. W. Tangeman, of the Medical College of Ohio, has subjected it to a series of physiological experiments, the results of which he contributes as follows:

1. Cascara sagrada, when given in small doses (fifteen to twenty drops), acts like a vegetable bitter on the stomach; it increases the flow of gastric juice, stimulates the peptic glands to increased action, thereby bringing about healthy gastric digestion.

2. It acts on the sympathetic nervous system, sending an increased blood supply to the intestines.

3. It increases to a limited extent peristaltic action of the small bowels, but increases it very much in the colon, and especially in the rectum.

4. It has a specific action on the rectum in the way of peristalsis, to cause this portion of the bowel to unload itself.

5. It does not affect the passage of the food in the small intestines any more than a bitter tonic would.

6. It is not a safe remedy in pregnancy or uterine disorders, especially when given in cathartic doses.

7. It does not affect the larger glandular organs, liver, pancreas or spleen, even when given in cathartic doses.

8. Hypodermically the remedy will never produce the permanent good results in chronic constipation that are obtained when it is given by the mouth.

9. When employed subcutaneously it acts simply as an evacuant to the rectum.

10. The same quantity given hypodermically that produces marked effects when administered by the mouth, will not have the same effect clinically or physiologically.

Dr. T. L. Wright, of Bellefontaine, O., discusses the peculiar applicability of cascara cordial, of which rhamnus purshiana is the base, in the treatment of the constipation of elderly persons. In this class of cases many of the symptoms which are usually associated by physical decay are directly traceable to constipation, and Dr. Wright has found that cascara cordial, through its tonic-laxative properties, removes this condition greatly to the improvement of the person's spirits.

Dr. F. C. Herr, physician to the Southwestern Hospital of Philadelphia, after extolling the value of cascara cordial in dyspeptic disorders, speaks very highly of the preparation as a vehicle for the administration of the more unpalatable drugs. He regards the encroachments of homœopathy upon regular medicine as largely due to the persistent refusal of the old school of practi-

tioners, so-called, to accede to the demands of a sick public for palatable medicines. He has found in cascara cordial a vehicle which at once succeeds in disguising the taste of many disagreeable drugs, and at the same time meets the indication so commonly present for an easy and agreeable laxative. In discussing its applicability in the treatment of young children he has found in this cordial a preparation which is calculated to supplement to a very large degree the "carminative bottle," which has been in so much demand among young children. These baby-mixtures are too often unsafe, and should be given with a spare hand; and if cascara cordial shall be found on future trial to verify Dr. Herr's claim for it it will indeed prove to be a very valuable addition to the physician's armamentarium.

KAIRIN.—The *Lancet*, April 14th, 1883, says that Filehne, in a recent number of the *Berliner Klinische Wochenschrift*, calls attention to the value of derivatives of chinolin, which he, with Fischer and König, has found of great value as an antipyretic. These are kairin, kairolin, and, finally, chinolinæ hydrate of Wischnegradsky. Of these, kairin seems most likely to be of permanent value as an antipyretic. The muriate of kairin is a crystalline, clear, grayish-yellow powder, slightly soluble in water, having a bitter, saltish, aromatic taste, which is disagreeable to some patients, and is therefore given in wafers, with a subsequent drink of water. Filehne gives five to seven grains every hour or hour and a half. The remedy has shown a marked control over the temperature of croupous pneumonia. The urine, when kairin is being given, becomes dark green.

UNIVERSITY DISPENSARY TONIC.

℞.	Cinchon. sulph	℥ j.
	Ferri sulph	℥ iv.
	Cupri sulph	gr. xxxij.
	Strychniæ sulph	gr. xvj.
	Acid. sulph. arom	℥ j.
	Aquæ	Oiv.

M. Sig. Teaspoonful after each meal.

Dr. D. W. Yandell formulated this in 1855. It has remained in use ever since, giving great satisfaction, being inexpensive and efficacious.

L. P. Y.

SURE CURE FOR CORNS.—A. C., who has tried it, is authority for the following: Take one-fourth cup of strong vinegar; crumb finely into it some bread; let stand half an hour, or until it softens into a good poultice; then apply on retiring at night. In the morning the soreness will be gone, and the corn can be picked out. If the corn is a very obstinate one, it may require two or more applications to effect a cure.—*Druggists' Circular.*

NOTE ON DISINFECTANTS.—Most practitioners must have often realized the inefficiency of disinfectants in allaying the fœtor of cancerous ulcers, an annoyance which sometimes troubles patients even more than the pain, or the thought of death.

I have used the whole round of disinfectants for cancerous ulcers, but all have failed in allaying the fœtor, and keeping the ulcer clean. The disinfectants tried were carbolic acid, sanitas, terebene, resorcin, creasote, boroglyceride, chloride of zinc, charcoal, etc. After failure with these, I tried a saturated solution of hyposulphite of soda, added to an equal quantity of water, and found it exceedingly efficacious. The ulcerating surface was well syringed

and washed with the solution, and was then covered with rags steeped in the solution. The granulations were kept clean, and the fœtor was well kept under.

Most disinfectants seem to lose their virtue after a few days' application, but I have used this one for months in the same patient with continuous good effects. It is cleanly, has no smell, does not stain, and is very cheap. I venture to recommend it to the favorable consideration of your readers, feeling sure that they will not be disappointed if they try it, and I should be glad to hear the results of their experience.

W. E. Buck, M.A., M.D. *(Cantab.)*

Castor Oil and Glycerine.—Dr. George R. Young, of Belfast, writes to the *Lancet*. A mixture which is of an agreeable flavor, and in which the nauseous smell of the oil is efficiently disguised, can be made thus:

℞.	Ol. ricini	℥ j.
	Glycerini	ʒ j.
	Tr. aurantii	mxx.
	Tr. senegæ	mv.
	Aquæ cinnam	ad ℥ ss.

This forms a beautiful emulsion, is easily taken even by children, and if administered at bed-time will produce a gentle motion the following morning. In cases of habitual constipation, when this mixture is repeated for three or four nights, it brings about a regular morning motion. The tincture of senega is used to emulsify the oil, and as the quantity employed is small, its use cannot be objectionable from a therapeutic point of view.

According to M. Feris, of Brest, veratria has the property of causing various kinds of tremor to disappear, and that in the space of ten days or a fortnight. It has been employed in disseminated sclerosis, alcoholism, and adynamic states. The dose is four pills per diem, each containing half a milligram of the alkaloid.

Vesication in Diphtheria.—Dr. W. F. Bartlett, of Buffalo, New York, communicates to the *Therapeutic Gazette*, for December, the results of his experience in the use of cantharidal blisters in diphtheria. His plan is to apply the blister immediately on the appearance of the exudate in the throat. The theory is that the marteries morbi is eliminated through the blistered surface, while the counter irritation thus caused relieves also the engorged pharyngeal surfaces. He regards the exudate in the throat as merely an announcement of the presence of the poison in the blood, and that from the nature of the ephithelium or impinging of inspired air primarily upon those surfaces, the partial elimination of the morbid element is accomplished.

Corrosive Sublimate in Gonorrhœa.—Dr. Joseph McChesney, of Deming, New Mexico, contributes to the *Therapeutic Gazette*, for December, a report of a series of seven cases of gonorrhœa in which he employed by way of treatment, only a solution of corrosive sublimate, one grain to six ounces of water. The results are already very surprising. In several of these cases this injection was resorted to after a long and unsuccessful course with the ordinary remedies in such cases, and the result was uniform success. He resorts to these injections, which he gives once every four hours, after the subsidence of the acute stage. He is very confident that properly applied this solution will effect a cure of the gonorrhœa within from eight to ten days after it has been resorted to.

REVIEWS.

A Treatise on the Practice of Medicine, for the Use of Students and Practitioners. By Roberts Bartholow, M.A., M.D., LL.D. Third edition, revised and enlarged. 8vo. cloth, pp. xx–918. New York: D. Appleton & Co.

The first edition of this work was carefully reviewed in this Journal, and the opinions expressed in regard to it were by no means complimentary. Since then there has been no reason to change the estimate formed of it.

Every portion of general pathology, so acceptable in all works on "Practice," is omitted. Over twenty subjects presented in most similar works are not given. Very important subjects are dismissed with a few lines of no value whatever. Conciseness has run into vagueness and obscurity. The work suggests rather the smell of the lamp, than the associations of the bedside. There is in most of it a polypharmacy and a hyperpharmacy advised that is unwarranted and unsafe. It is far inferior to American and English works on Practice. It cannot be compared with the work of Tanner or Bristowe, or Watson in England; with that of Trousseau or Jaccoud in France; with that of Niemeyer in Germany; or with the great work of Flint in America. There is but one American "Practice" inferior to it, and that is the work of Palmer of Michigan.

It is only fair to say, and it is a pleasure to say it, that the American medical press has been generally eulogistic of Bartholow's "Practice," but *chacun à son goût.* The conciseness of the author has received hysterical adulation, but evidently by those who regard a chronological table as history. Brevity is as often a vice as it is a merit; certainly in a work which must in its very nature be descriptive, or be of no value. It was grand when Suwarrow thus announced his great victory, "Warsaw is ours;" and it was a greater triumph of brevity to reply, "Bravo, Suwarrow;" but neither writer was describing Warsaw.

In a descriptive work brevity is barrenness. An author thus writing is unjust to his readers, to his subjects, and to himself.

Lectures on Orthopœdic Surgery and Diseases of the Joints. Delivered at Bellevue Hospital Medical College during the winter session of 1874–1875. By Lewis A. Sayre, M.D., Professor of Orthopœdic Surgery and Clinical Surgery in the Bellevue Hospital Medical College, etc. Second edition, revised and greatly enlarged, with 324 illustrations. New York: D. Appleton & Co. 1883.

Seven years ago the first edition of this work was published. It received very varied notices: some caustic, some kind, but in the main impartial and just. The work has stood the brunt of ridicule and the test of time; it has become a classic and an acknowledged authority. Efforts have been made to defraud the author of much that is original with himself, but he has been fully vindicated in his claims by able friends and abundant testimony. His statements have been assailed by rivals and neighbors, but he has emerged from all of his trials triumphantly, and his work to-day stands forth unimpeached and unimpeachable. Many new chapters have been added in this edition, and the whole work has been revised. New illustrations are frequent and well prepared. The cases presented are all instructive and interesting. The style is conversational; often naïve, anecdotal, individual, and yet welcome and enjoyable. British critics have said it was undignified, but American classes look to the matter and not the manner; and in the course of years the author will yet be

dignified, or may be. His work is a standard authority, and that, after all, is the true test of an author. It is well issued.

THE PRINCIPLES AND PRACTICE OF MEDICAL JURISPRUDENCE. By the late ALFRED SWAINE TAYLOR, M.D., F.R.S., Fellow of the Royal College of Physicians of London. Third edition. Edited by THOMAS STEVENSON. M.D. (London), Fellow of the Royal College of Physicians of London, etc. 2 vols. 8vo., pp. 1,359. Philadelphia: Henry C. Lea's Son & Co. 1883.

No one will deny the truth of the claim made for this work, that it is the best of its kind in the library. It has been so for many years, and the present edition is a decided improvement over all of its predecessors. A large portion of the previous edition was rewritten; all of it carefully revised, and made to reflect the facts of science at that date. Since the death of the author, his friend and co-laborer, Dr. Stevenson, has been busily engaged in improving this great work, and it is now better than ever. The book has been so often reviewed, is so familiar to the profession, and is so unreservedly adopted as a guide and forensic authority, that it would be superfluous to add anything more to this notice of it.

SANITARY AND STATISTICAL REPORT OF THE SURGEON-GENERAL OF THE NAVY FOR THE YEAR 1881. 8vo. pp. 684. Government Printing Office, Washington. D. C., 1883.

This is one of the most creditable works ever published by this Government. It is a monument of administrative genius and professional ability, and shows better than any other possible evidence could do the fitness of the present Surgeon-General of the Navy for his distinguished position.

There is presented in detail the sanitary condition of every vessel in the navy; reports from all of the naval medical officers in charge, showing a high degree of scientific ability and official care; the condition of the naval hospitals; the facts in regard to the insane; the strength of the medical corps; the number of cases treated, with results; the influence of age on morbidity, with a valuable table; sanitary investigations with heliotype plates; the report of the Naval Observatory Board; naval hygiene; medical topography and sanitary reports. There are five excellent maps, nineteen charts, many valuable heliotypes and wood cuts. Surgeon-General Philip S. Wales has, in this work, manifested great efficiency, and demonstrated the high scientific status of the naval medical officers of this country.

HEADACHES; THEIR CAUSES, NATURE AND TREATMENT. By WILLIAM HENRY DAY, M.D., Author of "Systematic Treatise on Diseases of Children." Fourth edition, revised. "Octavo Series of standard Medical Books." 8vo. pp. 147. P. Blakiston, Son & Co. Paper cover, 75 cents; cloth, $1.25.

The title of this well-known volume is so voluminous that there is but little left to be said for the information of the reader. Most physicians are familiar with the work. Those who are not should purchase it. Every one has to treat headaches, and this volume will furnish to any one many useful hints. Headaches are classified by the author, and he furnishes one hundred or more formulas for their treatment. If the diagnosis is made in any case, the doctor has only to take his choice of the many prescriptions offered for his use. This, of course, does not suit the best grade of physicians; but many like it, and these will find much to rejoice their hearts in this mode of managing their headachey patients. To many doctors, a new prescription has all of the charms that a new bonnet has for the average woman, and in this book there are 116!—a mine of

pleasure!—a very bonanza in pharmacy. But every one will find the volume useful.

STUDENT'S GUIDE TO DISEASES OF THE EYE. By EDWARD NETTLESHIP, F.R.C.S. Second American, from the second revised and enlarged English edition. With a chapter on Examination for Color Perception, by WILLIAM THOMSON, M.D., Professor of Ophthalmology in the Jefferson Medical College. Philadelphia: Henry C. Lea's Son & Co. 1883.

This is, deservedly, one of the favorite volumes in every physician's library. The author has had such great experience; he writes so clearly and well; his views are so judicious and satisfactory; he is so simple and practical in dealing with diagnostic facts; there is in every sentence an idea worth having, and it is presented in such few and well-chosen words. It is in every respect an excellent volume.

It cannot be said that the additions of Dr. Thomson give any value to the volume. It is to be hoped that the next edition of the work will contain the test types given in the English edition. It was a serious omission not to give them in the American reprint.

DIAGNOSIS OF OVARIAN CYSTS BY MEANS OF THE EXAMINATION OF THEIR CONTENTS. By HENRY J. GARRIGUES, A.M., M.D., Obstetric Surgeon to the Maternity Hospital, etc. New York: W. Wood & Co. 1883.

This essay appeared in the *American Journal of Obstetrics*, and seems to have been republished without change. The author has presented the subject very fully and with much ability. He concludes that the examination of the fluid from ovarian cysts is, in value, more confirmatory than absolute, as a guide in diagnosis. Such fluids are not to be regarded as pathognomonic, but they often serve a valuable purpose as confirmatory, when the diagnosis is otherwise unsatisfactory. This seems to be the scope and results of the author's labors in this work.

THE DISEASES OF WOMEN: A MANUAL FOR STUDENTS AND PHYSICIANS. By HEINRICH FRITSCH, M.D., Professor of Gynecology at the University of Halle. With 159 wood engravings. New York: W. Wood & Co. 1883.

As a guide to the present status of gynecology, as known in Germany, this book is in all respects excellent. It is inferior to American works in every respect. It can bear no comparison with them. Its merits are, that it is cleverly written, that it is a reflex of German thought, and that it has not the usual German blemish of offensive dogmatism, and the foolish and ludicrous claims to superior wisdom.

EPITOME OF SKIN DISEASES, WITH FORMULÆ FOR STUDENTS AND PRACTITIONERS. By the late TILBURY FOX, M.D., F.R.C.P., and T. COLCOTT FOX, M.B., M.R.C.P. Third American edition by T. COLCOTT FOX, B.A., M.B., Physician for Diseases of the Skin to the Westminster Hospital, etc. Philadelphia: H. C. Lea's Son & Co. 1883.

The classification in this work is that adopted by the American Dermatological Association. The volume is not as complete as that of Duhring's, but it is one that has stood the test of time, and won its way to professional confidence and support. The present edition has been carefully revised. The formulæ will be to many like sugar plums at Christmas to children—so many, so attractive and so tempting, that there will be the familiar mistake of taking too many at once. "Give me prescriptions," say the prescription maniacs, and how many philan-

thropic authors charitably respond to this cry from the wilderness! Many authors believe that readers cannot make prescriptions correctly, and such authors are greatly beloved!!

MATERIA MEDICA FOR PHYSICIANS AND STUDENTS. By JOHN B. BIDDLE, M.D., late Professor of Materia Medica and General Therapeutics, Jefferson Medical College, etc. Ninth edition. Revised, rewritten and enlarged, in accordance with the sixth revision of the U. S. Pharmacopœia. By CLEMENT BIDDLE, M.D., U. S. Navy. With numerous illustrations. Philadelphia. P. Blakiston, Son & Co. 1883. Small 8vo. pp. 537. Price, cloth, $4; sheep, $4.50. (From publishers.)

This old favorite appears once more, and in a much-improved form. It is made to correspond with the last edition of the U. S. Pharmacopœia. There has been a liberal and faithful addition made in the shape of the newest and best preparations in regular pharmacy. The metric system is fully and carefully presented. The chapters on botany are made more concise, and fuller attention is given to the physiological action of drugs. The publishers have interleaved the work with blank pages for notes, to be made by the owner. It is a practical and useful work.

INSANITY: ITS CAUSES AND PREVENTION. By HENRY PUTNAM STEARNS, M.D. Small 8vo. Pp. 248. New York: G. P. Putnam's Sons. 1883.

This is a pleasant and sketchy volume. There is nothing worthy of especial mention about it. The author discusses fairly a number of subjects; the insane diathesis, the increase of insanity, the influence of age, education, marriage, heredity, alcohol, tobacco, sex, poverty, religion, insomnia, etc. He claims that there is both an absolute and relative increase of insanity, and his views of the predisposing and immediate causes of insanity, are such as are familiar to the profession. The best part of the book is that in which "cases" are detailed and the reader is left to draw his own conclusions. The book, however, has no especial value.

THE DIAGNOSIS AND TREATMENT OF DISEASES OF THE EAR. By OREN D. POMEROY, M.D., Surgeon to the Manhattan Eye and Ear Hospital, Ophthalmic and Aural Surgeon to the New York Infant Asylum, etc. With one hundred illustrations. Price, $3.00. New York: Bermingham & Co. 1883.

This is a most excellent and useful manual, but cannot, of course, be compared with the better known and more systematic treatises. It is sold at a marvelously low price for the value of the volume. The illustrations add much to the value of the manual. One can scarcely invest the amount asked for this excellent work more usefully. It is particularly adapted for use by the general practitioner, and will be justly and highly valued.

THE MICROSCOPE AND ITS REVELATIONS. By W. B. CARPENTER, C.B., M.D., etc. Sixth edition. With plates and engravings. Vols. I. and II. New York: W. Wood & Co. 1883.

These volumes form portions of Wood's library for 1883. This work is one of the best guides for the practical microscopist. It is not, further than this, a medical work. In its special field, however, it is, by general consent, admitted to be one of the best.

ENTERIC FEVER: ITS PREVALENCE AND MODIFICATIONS; ÆTIOLOGY, PATHOLOGY

AND TREATMENT, AS ILLUSTRATED BY ARMY DATA AT HOME AND ABROAD. By FRANCIS H. WELCH, F.R.C.S., Surgeon-Major, U.M.D. (Alexander Prize Essay, 1881, modified.) Philadelphia: Presley Blakiston, Son & Co. 8vo. pp. 190.

If this work had been published twenty years ago, when what some people call "the rebellion" was in progress, it would have been of far greater interest than it is now. It is chiefly of interest to military surgeons, though it is a very good reference book for the library.

ACUTE DISEASES AND INJURIES OF THE EYE, EAR AND THROAT. Some suggestions to the family physician on their management. By W. CHEATHAM, M.D., Lecturer on Diseases of the Eye, Ear, and Throat, University of Louisville, etc. Reprint from *American Practitioner*.

BACTERIA AND THE GERM-THEORY OF DISEASE. By DR. H. GRADLE, Professor of Physiology, Chicago Medical College. 8vo. pp. 219. Chicago: W. T. Keener, 96 Washington street. 1883.

A very fair examination of the subject of bacteria up to the present time, presenting the questions of bacteria cultivation, fermentations, putrefaction, inoculation of germs, the relation of the germ-theory to disease, etc. The eight lectures are lucid, practical and useful.

A TEXT-BOOK OF GENERAL PATHOLOGICAL ANATOMY AND PATHOGENESIS. By ERNST ZIEGLER, Professor of Pathological Anatomy in the University of Tübingen. Translated and edited for English students by DONALD MACALISTER, M.A., M.B., M.R.C.P., etc. New York: William Wood & Co. 1883. Pp. xv.-371. Wood's Library of Standard Medical Authors.

To those interested specially in pathology, this work will be valuable. It is, however, too technical and special for the average practitioner.

ELEMENTS OF HISTOLOGY. By E. KLEIN, M.D., F.R.S. Illustrated with one hundred and eighty-one engravings. Philadelphia: Henry C. Lea's Son & Co. 1883.

This work is elementary, but by no means superficial. Those who wish a brief, practical, well-illustrated and interesting volume on histology, would do well to purchase this one. It is an exceedingly excellent work.

CHEMISTRY, INORGANIC AND ORGANIC, WITH EXPERIMENTS. By CHARLES LOUDON BLOXAM, Professor of Chemistry in King's College, London; in the Department of Artillery Studies, Woolwich, etc. From the fifth and revised English edition. Philadelphia: H. C. Lea's Son & Co. 1883.

It is only necessary to call attention to the appearance of this classic. This edition is revised and improved, and is beautifully published. There are nearly 300 illustrations, and they are all excellent.

CHEMISTRY, GENERAL, MEDICAL AND PHARMACEUTICAL, INCLUDING THE CHEMISTRY OF THE U. S. PHARMACOPŒIA. By JOHN ATTFIELD, F.R.S., Professor of Practical Chemistry to the Pharmaceutical Society of Great Britain, etc. Tenth edition; specially revised by the author for America. Philadelphia. Henry C. Lea's Son & Co. 1883.

This work has reached its tenth edition in sixteen years. It is an old and deserved favorite, well known to every one and particularly valued by the general practitioner.

The Treatment of Wounds: Its Principles and Practice, General and Special. By Lewis S. Pilcher, A.M., M.D., Member of the New York Surgical Society. With 116 wood engravings. New York: Wm. Wood & Co. 1883.

This is the work of an accomplished and practical surgeon and an acceptable writer. He gives the principles of treatment for all wounds, then advises rules for carrying out these principles, and shows how these rules are to be modified in treating special wounds. A brightly written and excellent work.

The Medical Record Visiting List, or Physician's Diary for 1884. New York: Wm. Wood & Co.

The Physician's Visiting List for 1884. Thirty-third year of its publication. Lindsay & Blakiston.

The Physician's Pocket Day-Book. Good for thirteen months. Designed by G. Henri Leonard, M.A., M.D., Detroit, Michigan.

Miner's Physician's Memorandum Book. Published by Joel A. Miner, Ann Arbor, Michigan. 1884. Price by mail, $1.25.

The Physician's Daily Pocket Record. Edited by D. G. Brinton, M.D., Philadelphia.

Walsh's Call Book. Washington, D.C.

These useful companions for 1884 have all been received; Wood's is the handsomest ever published; Lindsay and Blakiston's is the oldest; Leonard's is the simplest. Miner's, Brinton's, and Walsh's the equal of any in usefulness and efficiency. They are all good and deserve success and support.

MISCELLANEOUS.

The Treatment of Tremor.—According to M. Feris, of Brest, veratria has the property of causing various kinds of tremor to disappear, and that in the space of ten days or a fortnight. It has been employed in disseminated sclerosis, alcoholism, and adynamic states. The dose is four pills per diem, each containing half a milligramme of the alkaloid.—*Medical Record.*

The proportion of doctors to population is given as follows by the *Siglo-medico:*

France	2.91	per 10,000.
Germany	3.21	"
Austria	3.41	"
England	6	"
Hungary	6.10	"
Italy	6.10	"
Switzerland	7.06	"
United States	16.24	"

Purulent Pericarditis Cured by Free Incision.—Dr. West reports a case of purulent pericarditis in a boy of sixteen years, which was successfully treated by making a free incision subsequent to pericardicentesis. Recovery followed in five weeks.—*Lancet.*

Artificial Impregnation in its Medico-Legal Aspects.—A case of much interest to the medical profession has recently been brought before the civil tribunal at Bordeaux. It appears that a certain physician in Bordeaux advertised widely that he was able to cure sterility in either sex, and no matter how obstinate. Attracted by these pretensions, M. and Mme. A., a childless couple, went to the quack and secured his services. The operation known as artificial impregnation was performed, but, as the evidence shows, in a bungling and incomplete manner. Conception did not take place; but, on the contrary, some local injury was done. Despite the failure the quack claimed his fee, which was the moderate sum of fifteen hundred francs, and accused the woman of having attempted abortion. The case was brought before the court, which not only refused to award the fee but condemned the operator and the operation. The decision does not affect the legality of the operation itself, but the judge condemned it as being a procedure which was unnatural, and which might, if abused, be a source of danger to society.

Artificial impregnation is an operation which, in certain cases, may be justifiable, but which is generally resorted to with extreme caution by gynecologists. The practicability of artificial impregnation was first shown upon the lower animals by Spallanzani in 1782. Dehant and Sims, about twenty years ago, began to attempt it upon human subjects. In fifty-five separate experiments upon six patients, Sims only succeeded once, and he has now abandoned the operation. Some French gynecologists still endorse it.—*N. Y. Record.*

The Colored Curtain in the Eye. By William Ackroyd.—This ring-like curtain in the eye, of gray, green, bluish-green, brown, and other colors, is one among the very many remarkable contrivances of the organic world. The eye cannot bear too much light entering into it, and the colored curtain so regulates its own movements that too much light cannot enter the eye. The dark circular aperture in the centre, known as the pupil, is consequently for ever altering in size ; on a bright, sunshiny day, out in the open, it may be only the size of a pin's head, but at night, when there is no light stronger than starlight, it is even bigger than a pea.

This colored ring curtain is fixed at its outer edge, and its inner edge expands or contracts so readily and, apparently, so easily, preserving its circular outline all the while, that it is quite provoking to the inventor, who has been trying to invent movable "stops" or "diaphragms" for years, and after all his labor cannot even approach it in perfection, and his despair is complete when he learns that the movements of this eye curtain are automatic and quite independent of the will.

It is unlike the ordinary window blind, which is generally of a rectangular shape, and is drawn up or let down according to the amount of light entering the room. The eye curtain or iris is of ring shape, and possesses a wonderful power of expanding itself so as to diminish the area of the pupil, and of shrinking in, so as to enlarge the area of the pupil. Its movements may be watched in a variety of ways, some of which we shall describe.

The common way of watching the movements of the iris is to regard it closely in a looking-glass while the amount of light entering the eyes is varied. Place yourself before a looking-glass and with your face to the window. Probably the iris will be expanded, and there will only be a very small opening or pupil in the centre. Now shut one eye suddenly, while narrowly watching the other in the glass all the time. At the moment the light is cut off from one eye, the iris of the other contracts or is drawn up so as to enlarge the pupil. This shows that there is a remarkable interdependence between the curtains of the two eyes, as well as that they are affected by variations in the quantity of light falling on them.

Perhaps one of the most interesting ways of watching the movements of these sympathetic eye curtains is one which may be followed while you are out walking on the streets these dark winter nights. A gas-lamp seen at a distance is, comparatively speaking, a point of light, with bars of light emanating from it in many directions. These bars, which give the peculiar spoked appearance to a star, are probably formed by optical defects of the lens within the eye, or by the tear fluid on the exterior surface of the eye, or by a combination of all these causes. Be that as it may, the lengths of the spokes of light are limited by the inner margin of the eye curtain; if the curtain be drawn up, then the spokes are long; if the curtain be let down, or, in other words, if the pupil be very small and contracted, then one cannot see any spokes at all. Hence, as I look at a distant gaslight, with its radiating golden spokes, I am looking at something which will give me a sure indication of any movements of the eye curtains. I strike a match and allow its light to fall into the eyes; the spokes of the distant gas-lamp have retreated into the point of flame as if by magic; as I take the burning match away from before my eyes the spokes of the gas-lamp venture forth again.

The experiment may be utilized to see how much light is required to move the window curtains of the eyes. Suppose you are walking toward a couple of gas-lamps, A and B; B about fifty yards behind A. Then, if you steadfastly look at B and at the golden spokes apparently issuing from it, you may make these spokes a test of how soon the light of A will move your ires. As you gradually approach A you come at last to a position where its light is strong enough to make the spokes of B begin to shorten; a little nearer still and they vanish altogether. I have found that about a third of the light which is competent to contract the pupil very markedly will serve to commence its movement.—*Knowledge.*

Removal of Warts.—Warts may be removed by cauterization, as recommended by Dr. Cellier in the *Jour. de Méd. et de Chir. Pratiques* (*Medical Record*). An ordinary pin is thrust through the base of the wart, care being taken not to wound the healthy tissue beneath. Then the skin being protected, the head of the pin is heated in the flame of a candle. It is said that the wart becomes white and fissured in a few minutes, and comes away on the point of the pin. Dr. Cellier also says that it is only necessary to remove one wart on the hand, that though there may be a dozen, all the others will disappear without treatment.

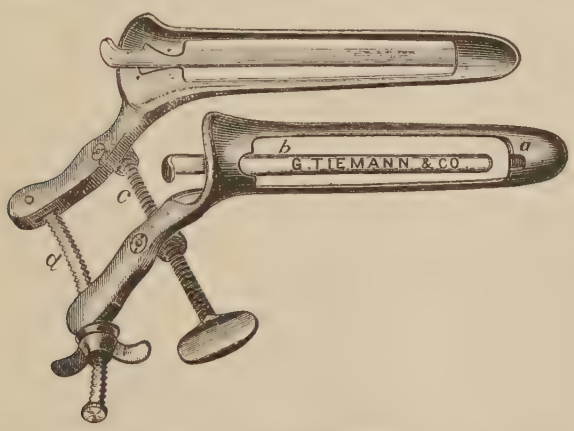
A Palatable Cough Mixture.—℞. Syr. Scillæ, ʒ j.; Acid. hydrobromic, dil., ʒ ss; Spirits chloroform, ʒ ss; Aquæ, ℥ j.

The Mortality Referable to Alcohol.—At the end of a long and carefully prepared report recently drawn up by a Committee of the Harveian Society, it is concluded: that there is, upon the whole, reason to think that, in the metropolis, the mortality among any considerable group of intemperate persons will differ from that generally prevailing among adults in the following important particulars, viz., a fourfold increase in the deaths from diseases of the liver and chylopoietic viscera; a twofold increase in the deaths from disease of the kidneys, a decrease of half as much again in those from heart-disease, a marked increase in those from pneumonia and pleurisy, a considerable increase and an earlier occurrence of those from disease of the central nervous system; a marked decrease in those from bronchitis, asthma, emphysema, and congestion of the lungs, a decrease nearly as great in those from phthisis, and a later occurrence, or at least termination, of the disease; a very large decrease in those from old age, with an increase in those referred to atrophy, debility, etc., and the addi-

tion of a considerable group referred in general terms to alcoholism or chronic alcoholism, or resulting from accidents.—*British Medical Journal.*

Resection of the Lung in Italy.—This operation was performed on July 6th, by Prof. Ruggi, on a woman, æt. 30, for a vast phthisical cavity of the right lobe. The entire lobe was removed through an opening in the anterior superior wall of the thorax. The second and third ribs were excised for a distance of nearly three inches, the pleura opened and detached from the lung, without the least respiratory or circulatory trouble. The operation lasted about one hour and a half. Though the pulse, respiration, and temperature remained normal for thirty hours, the patient sank and died in a few days.—*Medical News.*

New Speculum.—A new speculum for the rectum, and also for the vagina of the virgin, by W. W. Keen, M.D., of Philadelphia. The inventor says: "I have found the ordinary specula so unsatisfactory in the examination of the rectum that I have devised the present one to fulfil several purposes, and I have found it practically to answer the objects I have had in view. The figure shows it of about three-fifths the full size, the length of the blades being three and three-quarter inches, the breadth seven-eighths of an inch at the base. Placing the blades and handles in apposition, the blades are dilated at base by the screw *c*, the ends remaining in contact and so forming a long Λ. This enables one to expose to view the anus and lower rectum, while the closed extremity prevents the escape of the fæces, unless they be very liquid. The value of this manœuvre in examinations for hæmorrhoids, fissures and other anal troubles, or in any operations on piles, is very obvious. If a lateral view of the rectum be desirable, one slide, *b*, or both may be withdrawn. *a* Is a slot in which the extremity of the blade fits snugly when it is in place.



By screwing up the nut on the screw *d*, instead of *c*, the heels of the blades are a little dilated, but the chief dilatation is at the points. This will give a view of the rectum higher up. Or by using both screws, *c* and *d*, the blades may be dilated parallel to each other as in the engraving.

The small size of the speculum renders it admirably adapted for vaginal examinations in the virgin, with the same variations in its manipulation as above described.

I must acknowledge the assistance rendered by Messrs. G. Tiemann & Co., in suggesting mechanical details which have improved this instrument.

Dr. Jonathan Hutchinson (*British Medical Journal*, October 20th) says that since he has come to appreciate the value of yellow oxide of mercury ointment in the treatment of chronic inflammations of the eye he has been able to abandon almost entirely the use of blisters, setons and like painful measures.

The Maori modus operandi during labor is as follows: When the woman is taken in labor, she, with one or two of the same sex, goes into the

titree, or manuka scrub, some two hundred yards or so from the whare, and, if the weather is bad, a tent is erected, acccording to the circumstances of the family. In fine weather no preparation is made. They are never confined in their own whares. The posture during labor is the kneeling one; the woman clasping her arms around one of the attendants, who supports and presses the abdomen, while the other receives the child at birth from behind.

The placenta is removed by pressure on the womb through the abdominal wall, and if there is any difficulty, the woman goes at once into the cold or tepid water, and by kneading the womb, as above described, the object is attained.

The placenta is invariably buried secretly. Allowing time and using pressure from without are their only modes of conducting labors. In cases that did not yield to these means the woman was allowed to die.

They know no internal operations at all; but, as one of my most intelligent Maori informers said: "There is very seldom any trouble. Often the woman delivers herself alone, and brings in a kit of potatoes as well as the child.—*Australasian Med. Gazette.*

Scarlet Flannel.—A writer in the *Lancet* says: The system of dyeing scarlet flannel with lac dye or cochineal has been abandoned in favor of aniline dye, into the manufacture of which arsenic so largely enters, and from which it is seldom, if ever, free. At the present moment I know of a case of serious skin eruption in a family of children, which the doctor attributes to the use of scarlet flannel drawers. As scarlet is said to be the fashionable color this winter, it is most important to be warned in time.

Visible Capillary Pulsations.—M. A. Ruault recently read a paper before the Clinical Society, which relates to the visible capillary pulsations. The symptomatic value of this phenomenon was first indicated by Quincke. According to this author the capillary pulse, indicated by alternate redness and pallor of the tissues concerned, isochronous with the cardiac systole and diastole, is specially observed under the finger-nails in healthy subjects, as well as in slight chlorosis and particularly in aortic insufficiency. It is occasionally accompanied by a similar pulse visible at the fundus oculi, by the ophthalmoscope. M. Ruault's communication relates, however, to a variety of visible capillary pulse which may be observed on a so-called vaso-motor spot, produced by rubbing the forehead with the finger-nail. The capillary pulse is plainly seen in these congested areas if the observer's eye be maintained at a distance of thirty or forty centimetres from them, and the cardiac pulsations are easily counted. M. Ruault has never observed the capillary pulse in healthy persons, but in chlorotic patients and in those suffering from lead poisoning, whose arteries presented the fibroid degeneration known as arterio-sclerosis. The pulsations in question were most constantly observed, however, in patients with aortic insufficiency, especially in those whose cardiac action was regular and strong. It therefore seems that the capilliary pulse can only occur in those pathological conditions attended by co-existing augmented cardiac impulse and general arterial contraction, as is frequently the case in arterio-sclerosis.—*Journal de Médecine et de Chirurgie Pratiques.*

Malaria from Flowers.—Tending to corroborate the idea that malaria is caused by *any* vegetable decomposition is the case reported by Dr. Eichwald, of St. Petersburg, of a lady who lived constantly in a room filled with flowers in pots, and who thus acquired an intermittent fever with symptoms of true malaria.—*Boston Journal.* [Note.—A mere coincidence, evidently. Those who tend all of the flowers and plants in hot-houses never thus suffer.—E. S. G.]

BABY-SUP.—Prof. Albert R. Leeds, of the Stevens Institute, Hoboken N. J., says "Baby-sup is the worst of all of these foods, for very little of the starch has been coverted into sugar. This is not exactly the kind of food that Liebig intended for feeding infants, I think." Yet professor Leeds has very recently said of baby-sup:

"No. 1.—It is very sweet, partly crushed, whole oatmeal, very palatable even before cooking, and dissolving readily in the juices of the mouth. It is prepared from malted oats, and after the conversion of the starch has gone as far as it is thought it will proceed, the oats are carefully hulled—only a residue of the coat being left in the crack of the grain. The analysis shows the lowered percentage of starch and the increase of saccharine bodies due to this treatment.

"No. 2 consists of wheat flour, malted barley and potassium bicarbonate, i the proportions given in Liebig's formula. In its dry state the mixture has but little taste, but becomes thin, sweet and palatable on cooking. The analysis gives but a partial result of this change, because the food was cooked only five minutes before the analysis, whilst the directions call for a half-hour's cooking. But already much of the starch has been converted into dextrine. These foods are most commendable efforts to carry Liebig's views into practice, and it is to be regretted that a certain amount of care and time is requisite to properly cook them, and for this reason they will probably have only a restricted use."—*Report upon Health Foods, Invalid Foods, and Infant Foods, New Jersey State Board of Health Report*, 1882, *p.* 198.

[NOTE.—The views of Professor Leeds as to baby-sup are evidently governed by circumstances.—E. S. G.]

MEDICAL NEWS.

DR. SIMS.—The twenty-ninth anniversary of the Woman's Hospital was celebrated at the wards of the institution, when a bust of the late Dr. Marion Sims, by Du Bois, of Paris, was presented by Mrs. Russell Sage, who said that it was almost thirty years since a memorable meeting was held in Stuyvesant Institute on Broadway, near Bond street, and the outcome of that meeting was the Woman's Hospital, the first of its kind in the world. A physician, guided by the inspiration of the genius God had given him, had sought this city, bringing with him the results of faithful, conscientious toil, which had achieved success in the cure of a pitiful and pitiless malady. It became their sacred duty to crown him Benefactor whom two continents had delighted to honor, and she hoped that the marble now presented would help to perpetuate in coming years the name of Dr. J. Marion Sims, the founder of the Woman's Hospital.

THE *Æsculapian* is the last New York medical monthly. It is a double-column, 48-page journal, published by Bermingham & Co. for $2 a year. The January number is well prepared and issued.

SUSPENDED.—The Pittsburgh *Medical Journal* will suspend further publication for the present, to reappear next summer if it receives the "proper encouragement."

HOSPITAL Saturday and Sunday in this city has yielded $28,000.

Dr. William B. Platt, on Saturday, November 24, obtained by examination the degree of Fellow of the Royal College of Surgeons of England. He is said to be the first native-born citizen of the United States who has obtained this degree. There were seventeen candidates, and nine succeeded in passing the examination.

Barnum makes his Will.—P. T. Barnum seems to consider his life work accomplished in the obtaining of the sacred white elephant from the Burmese king, for he has just made his will. *In order that there might be no question as to his sanity upon which to ground contests after his death, he had eminent physicians examine him, and secured their attestation that he was of sound mind.* The will and its codicils cover more than 700 pages of legal cap, closely written, and disposes of real estate and personal property of the value of $10,000,000.

A People without Consumption.—According to the *Medical and Surgical Reporter*, a paper was read recently before the Tennessee Medical Society, with the title, "A People without Consumption, and some Account of their Country." The country in question is the Cumberland plateau. The writer, Dr. Wright, has practised in the region throughout a generation, and in his assertion of fact touching the entire absence of consumption he is supported by the testimony of about twenty other physicians of standing.

Copper and Cholera.—M. Vulpian presented to the Académie de Médecine a note from Bochefontaine, which states that, after a careful investigation of different districts densely populated by copper workers, he ascertained that these districts have not been exempt from epidemics of cholera and typhoid fever, and mentions the instance of the coppersmiths of Villedieu, among whom, some time ago, there appeared a severe epidemic of that disease. M. Bouley has presented to the Académie des Sciences M. Burq's report of his inquiry among large copper factories. It contains a great deal of concordant evidence that copper workers are exempt from cholera and infectious illnesses, the report, therefore, differing entirely from M. Bochefontaine's note.

Mortality of Enteric Fever in New York.—Dr. Delafield, in the *Medical News*, gives a valuable monograph on typhoid fever as it prevailed in the hospitals of the City of New York for six years, ending with October, 1883. There were 1,305 cases, and an average mortality of about twenty-five per cent. Nearly one-half the entire number of patients were between the ages of twenty and thirty. The lowest mortality was in 1879, and the greatest in the year following, viz., 1880.

The Post-Graduate Medical School has had a prosperous opening, and begins its second term with about sixty students, all of whom are graduates in medicine.

The Orthopædic Hospital and Dispensary held its annual meeting December 5. The report of the previous year shows the institution to be in a prosperous condition. Over fifteen hundred patients were treated, of whom four hundred and fifty were either entirely or partially cured. Fourteen beds were endowed for one year.

Married.—"Dr. C. B. Raines, Jr., of Mineral Springs, Texas, was wedded to Mrs. Margaret Wilson, in Ft. Worth. Happy doctor, we congratulate you, and sincerely wish you and your fair bride a pleasant and prosperous journey through life. Here is our ☞, Dr., shake!"—*Texas Exchange.*

A NATIONAL hygienic congress was held in the city of Mexico on October 10th, at which a petition was prepared for presentation to Congress, asking that the constitution be amended by the addition of an article placing all sanitary regulations under the jurisdiction of the general Government.

DAMAGES FOR ACCIDENTS DURING ANÆSTHESIA.—Legal proceedings have recently been taken against a dentist in New York city for negligence in allowing a piece of tooth to drop into a patient's throat. After causing the patient to suffer from troublesome fits of coughing, the tooth was expectorated at the end of a month. A verdict was found for the plaintiff, and the defendant was obliged to pay five hundred dollars damages, and on appeal the judgment was sustained.

EFFECT OF THE CONTAGIOUS DISEASES ACT REPEAL, ENGLAND.—The Admiralty has issued an unprecedented order on the spread of contagious diseases among seamen. Since the repeal of the act relative thereto it says the spread of the pestilence at home ports and the extent to which seamen are incapacitated causes such a great dearth of seamen that henceforth simple cases cannot be exempted from draft abroad. The navy is in a worse sanitary condition than since the adoption of the act of 1866.

DR. D. W. YANDELL, of Louisville, Ky., has been elected honorary member of the Medical Society of London.

ORGANIZING A CREMATION SOCIETY.—New Orleans, Jan. 8.—A large meeting was held at the Stock Exchange to-night to organize a cremation society and make preparations for erecting a crematory for the burning of the dead. Dr. Felix Formento presided, and Eugene H. Levy acted as secretary. Plans were fully discussed, and it was determined to proceed at once. Dr. Formento was a delegate to the International Sanitary Council which met last year at Geneva, and submitted an argument for the sanitary necessity of cremation in the lowlands of Louisiana, where underground interment is impracticable. Plans of the Crematory Temple at Milan and Dr. Lemoyne's establishment at Washington, Penn., were submitted and referred to a committee. The meeting was largely composed of physicians, lawyers, and journalists, and the Hebrew faith was the one most numerously represented. The only clergymen so far identified with the movement here are of that class. The last grand jury of the parish unanimously recommended cremation as a sanitary necessity for the destruction of the bodies of the dead at the Charity Hospital.

A CASE of death from the inhalation of ether occurred at a clinic at Bellevue Hospital recently. The patient was a boy with apparently sound lungs and heart. He was under ether for about an hour and a half when he suddenly ceased to breathe, and all efforts at resuscitation failed.

CHILD-BEARING LATE IN LIFE.—Dr. John Meredith reports (*British Medical Journal*) the case of a woman who gave birth to a child when forty-eight years of age. American women would think nothing of this; any of them are equal to the feat.

THE MEDICO-LEGAL SOCIETY.—The annual election of this society, held December 5th, resulted as follows: President, Clark Bell, Esq. (third term); Vice-Presidents, Dr. R. O. Doremus and D. C. Calvin, Esq.; Secretary, L. P. Holme, Esq.; Treasurer, A. D. Hammersley, Esq.; Curator, Dr. A. H. Smith; Chemist, Professor C. A. Doremus.

RICORD.—Holmes calls the vivacious Ricord "the Voltaire of pelvic literature —a sceptic as to the morality of the race in general, who would have submitted Diana to treatment with his specifics, and ordered a course of blue pills for the vestal virgins."

THE royal borough of Windsor is reported by the *British Medical Journal* to possess at the present time a health record which is hardly to be equaled and certainly is not surpassed. For the last quarter its death rate was only 9.4 per 1,000, and not one of the deaths was due to any infectious disease.

SUPPRESSION OF QUACKERY.—At the annual meeting of the New York County Medical Society, held October 22, the sum of three thousand five hundred dollars was appropriated for use during the ensuing year in prosecuting illegal practitioners. The report of the proceedings of last year showed that the proper officers of the society had performed their unwelcome and often disagreeable task with satisfaction, and had found, with few exceptions, that they had the co-operation of the court in carrying out the law.

A NEW quarterly journal, to be called "The International Review of Medical and Surgical Technics," will be started in Boston, January 1, by Drs. Joseph H. and Charles Everett Warren and Willard Everett Smith. It will be devoted chiefly to the description, illustration and discussion of instruments, appliances and methods of operation that have been recently devised or published.

THE INCURABILITY OF CONGENITAL COLOR BLINDNESS.—Dr. B. Joy Jeffries calls attention to the fact that it is almost universally conceded by ophthalmologists and experts that congenital color-blindness is incurable. He refers to the contrary view held by Favre, of Lyons, France. Dr. Jeffries agrees in urging the value of educating the color-sense among the children of public schools.—*Medical Record.*

LAY NURSES IN FRENCH HOSPITALS.—The Hospital Council of Paris has voted that the Necker Hospital be provided with lay nurses, and the sisters of charity be removed. M. Desprès, a French hospital surgeon, sends to the *Gazette des Tribunaux* a letter he addressed to the Préfet of the Seine to protest against this change, highly unpopular amongst a large section of the medical officers of Parisian hospitals.

THE Tri-State Medical Soiety changed its name at its last meeting, and is hereafter to be known as the Mississippi Valley Medical Society.

DEATH OF PROFESSOR DEPAUL.—On the 22nd of October, Professor Depaul, the celebrated obstetrician, died at his native place, near Pau (Basses-Pyrénées). He was a commander of the Legion of Honor, member and formerly president of the Academy of Medicine, and one of the committee of publication of *La France Médicale.* He was 72 years of age, and died of pneumonia.

LARGE DAMAGES FOR LIBEL.—Last year Dr. Donald McLean, Demonstrator of Anatomy in the Medical Department of Michigan University, was charged with criminal relations with a lady patient from Canada, who sought his advice, the publication being made in the *The Evening News*, an afternoon paper of Detroit. Dr. McLean sued the newspaper for libel, which it undertook to justify, but the jury rendered a verdict of $20,000 damages. The case was appealed to the Supreme Court, which has affirmed the judgment of the Court below.

THIS CITY'S BIRTHS, MARRIAGES AND DEATHS IN 1883.—At the close of business hours in the Health Department, December 31st, there had been recorded 28,972 births, 11,556 marriages and 33,982 deaths during 1883; against 27,321 births, 11,085 marriages and 37,924 deaths in 1882. Of the births, 14,835 were boys, who outnumbered the girls by 698. Of colored children, 255 were born. Mothers who gave birth to twins number 140 and those who gave birth to triplets 2. One mother was 12 years old; and a woman of 26 married a man of 82 and made him a father. One woman who had passed the age of 50 gave birth to a child.

Matrimony was indulged in by 246 men and 2,798 women who were not 20 years old. Between the ages of 40 and 45, 499 men and 216 women ware married; between 45 and 50, 276 men and 120 women; between 50 and 55, 160 men and 56 women; between 55 and 60, 85 men and 24 women; between 60 and 65, 42 men and 8 women; between 65 and 70, 13 men and 3 women; between 70 and 80, 10 men, and between 80 and 90, 2 men. Eight colored men married white women. Those who entered on matrimony for the first time were 9,812 men and 10,115 women; for the second time, 1,570 men and 1,334 women; for the third time, 98 men and 42 women, and for the fourth time, 7 men.

The deaths in tenement houses were 18,041; 502 persons died in the rivers and streets. There were three judicial hangings—McGloin, Majone and Hovey. Violence caused 1,325 deaths; small-pox, 12; measles, 716; diphtheria, 709; typhus fever, 15; typhoid fever, 470; cerebro-spinal meningitis, 227; diarrhœa (among children under 5 years old), 2,867; diarrhœa (all ages), 3,393; alcoholism, 218; phthisis, 5,260; heart disease, 1,690; pneumonia, 3,158; solar heat, 83; apoplexy, 524; Bright's disease, 1,845. Of children under 1 year, 8,724 died; under 2 years, 10,246; under 3 years, 13,720. One hundred and twelve persons more than 90 years old died, among them 3 men and 17 women who were more than 100 years old. There were 61 homicides.

One hundred and sixty-one persons—134 men and 27 women—committed suicide. Their nationalities were: America, 38; Germany, 70; Ireland, 27; England, 5; Austria, &c., 5; France, 3; Scotland, 2; Sweden, Canada, Italy, Brazil, Spain and Switzerland, 1 each. Forty-three of the suicides were single, 78 were married, 24 were widowed and 1 was divorced. Nine were from 15 to 20 years old, 30 from 20 to 30, 37 from 30 to 40, 44 from 40 to 50, 29 from 50 to 60, 7 from 60 to 70 and 5 from 70 to 80. Twelve drowned themselves, 19 chose suspension, 15 sharp weapons, 56 employed powder and lead, 11 jumped from heights, 18 preferred Paris green, 11 took narcotics and the others called in the aid of poisons and gas. Thirty-four persons were accidentally poisoned. Forty-three persons were accidentally suffocated.

The following is the record of contagious diseases:

	1882.	1883.
Scarlet fever	6,312	3,820
Diphtheria	3,507	2,090
Typhoid fever	686	1,373
Typhus fever	207	71
Cerebro-spinal meningitis	236	239
Measles	4,637	3,828
Small-pox	708	28

The tenement-house law went into operation in June, 1879, when there were 21,163 houses, occupied by 160,362 families. There now are 25,946 houses, occupied by 201,733 families, estimated to number 907,000.

DR. GEORGE W. BAGBY, the humorist, lecturer and correspondent, died at Richmond, Va., aged fifty-five years.

Dr. Edward Warren-Bey, of Paris, has received two new decorations, "Officer of the White Cross of Italy" and "Member of the Order of Universal Samaritans of Geneva." (*Fredericksburg News.*) Dr. Warren was a confederate surgeon, after the war he served as surgeon-general in the Khedive's army, and was made a Bey for saving the Turkish Minister of War's life by an operation for strangulated hernia. He now does a large practice in Paris.

"Asseyez Vous."—The very latest novelty is a polite request to "sit down," and this is placed in the centre of a sheet of thin manilla paper sixteen by twenty inches in size; by means of a die, a perforated ring with fringed edges is cut out of it. It is intended to be used on the seat of a water closet as a protective: hygienic and comfortable. It is entitled the "daily need;" fits any form of water closet and is patented in France and other countries.

Dr. J. Marion Sims is said to have left, ready for publication, a story of revolutionary times, entitled "Lydia McKay and Colonel Tarleton." The Harpers are to publish it in February, 1884.

The ages of the oldest physicians in the City of New York, are: Willard Parker, 83; A. C. Post, 77; J. G. Adams, 76; William Detmold, 75; Isaac E. Taylor, 71; Austin Flint, Sr., 71; Frank H. Hamilton, 70.

The Brain of Turgénieff.—The brain of the great Russian novelist is said to have weighed 2,012 grams. The average weight of the human brain is 1,390 grams. Turgénieff's is said to be the heaviest which has yet been weighed.—*Medical Times and Gazette.*

A Spiritual Visitor.—The *Virginia Medical Monthly* states that Sir John Rose MacCormack has been passing the last few weeks in this country!

Postal Arrangement for the Color Blind.—It is claimed that many letters went to the Dead-Letter Office because of the inability of color-blind persons to recognize the difference in color between red and green. This is obviated by the law which has just gone into effect of having but one denomination and a uniform rate of letter-postage.

Dr. Beidler, of Texarkana, has recently won a suit against the Iron Mountain Railroad. It involved the ownership of fifty-four acres of land, and has been pending for years. The land is valuable, much of it being occupied by the bed of the road. The judgment is worth $25,000.

The Money Value of an Arm.—It may be of some interest to surgeons to learn that the money value of an arm, lost in the Taunton Locomotive Works by Mr. E. H. Rankin, was, in the opinion of a jury, $9,000.

Manitoba Medical College.—A medical college has been regularly established in Winnipeg. The introductory lecture was delivered by the Dean, Dr. Kerr, November 15; and the regular work of the session commenced Nov. 21.

Blindness is steadily decreasing in England, owing, it is considered, to the advance in surgical treatment of the eyes, and to the decline of such diseases as small-pox, etc., among children. For thirty years this affliction has gradually lessened; but within the last decade the improvement is especially noticeable, and the last returns reckon some 22,832 blind persons—about one in every 1,138.

TRICHINOSIS QUESTION.—Washington, Dec. 29.—Secretary Frelinghuysen today received a telegram from Minister Morton saying that it had been stated in the Chamber of Deputies that Dr. Dettmar, who was charged by this Government to investigate the trichinosis question, advised in his official report that all the hogs in the districts where trichinæ had made their appearance should be destroyed. Mr. Morton requested full information on the subject. Secretary Frelinghuysen immediately caused inquiry to be made at the Agricultural Department, in whose employ Dr. Dettmar had been, and this afternoon telegraphed Minister Morton that Dr. Dettmar stated incorrectly in 1878-9, in a report on swine plague, not trichinosis, that the disease was very prevalent in the West, and hogs laboring under it were carelessly sent to market; that he has since in newspapers expressed erroneous views on swine disease generally in the West; that Mr. Curtis, a thorough expert, who is investigating trichinosis, reports to the Agricultural Department that there is very little disease of any kind; that Dr. Dettmar is mistaken; that great care is taken by breeders and packers to send healthy pork to market; that the Commissioner of Agriculture entirely accepts Mr. Curtis's statement, and that at a meeting of the Swine Breeders' Association it was unanimously stated that no disease whatever had occurred among swine in Illinois, Michigan, Indiana, Wisconsin, and Ohio, whence members were present.

PRINCE BISMARCK was invited to the New Year's reception of the Emperor of Germany, but declined on the ground of medical advice. Dr. Schwenninger continues his treatment of the Prince, and has reduced his weight from 239 pounds, his average for 12 years, to 195 pounds. The Prince has resumed his riding exercise. He displays increased activity in Government affairs and in the management of his estate.

DR. J. MORRISON, of the Nautical Almanac Office, Washington, D. C., has been elected a Fellow of the Royal Astronomical Society of London, England.

PROFESSOR ERCOLANI.—Professor G. B. Ercolani, one of the most distinguished of the modern scientific men of Italy, died at Bologna, November 16, 1883.

GALVIN ELLIS, M.D., OF BOSTON.—Dr. Ellis, the professor of clinical medicine, and until quite recently the dean of the faculty in the Medical Department of Harvard University, died last month, after a long illness, which he himself diagnosticated as ulcer of the duodenum—correctly, as the post-mortem examination showed. The immediate cause of death was peritonitis, due to perforation. Dr. Ellis was born in Boston in 1826, and received his education wholly in that city, taking his medical degree from Harvard in 1849. He was a diligent student, a conscientious and painstaking practitioner, and a most effective clinical teacher.

DR. C. FAYETTE TAYLOR and his partner, who have a private orthopædic hospital on a corner of Sixth avenue where the elevated railway passes on two sides of the institution, have won a suit against the Metropolitan and Manhattan Elevated Railroad Companies in the Superior Court, the jury granting them $20,000 out of the $25,000 which they claimed. This was the second trial, the jury in the first trial having failed to agree. The plaintiffs sought to recover damages for depreciation of property and injuries to their business, they having leased the property before the road was built, and they claimed that the trains injured their business on account of the dirt, noise, foul gases, and obstruction of light and air consequent upon running them. The defense held that the roads were legally built, and were a public necessity.

A Crematory Association has been formed in Washington, and Congress is to be asked to give it a charter. A German physician has given a lot on which to erect a crematory similar to that in Washington, Penn. One of its members says that the expense of burning a body will not be more than $35, and that soon they may be able to reduce it to $20.

Trichinosis in Illinois.—Several cases of trichinosis have appeared in a German boarding-house at Bloomington, Ill. The disease was caused by eating raw sausage made from a hog raised in the place.

The *International Review of Medical and Surgical Technics* is the name of a new medical journal, to be issued January 1st, 1884, in Boston, Mass. The chief editor is Dr. J. H. Warren.

The *Archives of Laryngology* and the *Archives of Medicine* have suspended publication.

Death of Dr. Johnson Elliot.—Dr. Johnson Elliot, a prominent physician of Washington, died in that city, December 30th, of pneumonia. He had been ill for some time, but had recovered sufficiently to be out on the day after Christmas. This exposure led to a fatal relapse. He had for many years held the post of metropolitan police surgeon.

The Anthropological Society is the last established in this city. It is intended to be an arena for the display of psychological study and research. So far it is as comical in its dialogues as anything seen in the circus ring.

Dr. J. W. Stalnaker, of Austin, Texas, died November 11th, 1883. He was a victim of abscess of the liver. Dr. Stalnaker was a native of West Virginia, was an accomplished and beloved physician, an honored citizen and a true and devoted friend. He was a subscriber to this Journal since January, 1866.

Prof. C. A. Doremus read recently, at the Medico-Legal Society of New York, a report of a toxicological examination for arsenic, prepared by Dr. John J. Reese, professor of toxicology in the University of Pennsylvania, and incidentally alluded to the importance of guarding against the addition, by coroners or others, of alcohol as a preservative, or any other substance whatever, to parts to be submitted to the chemist for analysis, on account of the danger of the analysis being thereby invalidated.

A New Journal.—The *Analectic*, a monthly periscopic summary of the progress of medical science, edited by Walter S. Wells, M.D., formerly editor of the "Quarterly Epitome of Practical Medicine and Surgery," and "Epitome of Braithwaite's Retrospect," etc. Subscription price $2.50, in advance. Published by G. P. Putnam's Sons, New York City.

A Japanese student at the University of Berlin has been appointed assistant to the Professor of Anatomy, and the Minister of Public Worship has approved the appointment. No honor equivalent to this is said yet to have fallen on a Chinaman in any European institution.

New Symptoms in Enteritis.—Philip Brindle died at West Paterson, N. J., January 4th, 1884, after a peculiar illness of ten years. What it was no physician could tell. One singular thing about him was that during all that time

if anybody but his daughter or a neighbor named Mrs. Stoner came near him or within range of his vision he at once fell into a paroxysm resembling the state of a person suffering from a severe galvanic shock. He had no control over himself at such times. He could take food in all that time from nobody but his daughter. He spent a long time in a hospital, but nothing could be done for him, and he was discharged as incurable. An autopsy showed that the cause of death was inflammation of the bowels, and no further examination was made.—*Ex.*

Health Department Changes.—Some changes in the Health Department have been made in carrying out the plan of reorganization adopted. Other changes will be made. Col. Emmons Clark is the secretary of the board. Dr. Moreau Morris is chief of the first division of the Sanitary Bureau, of which Dr. Walter De Forest Day remains City Sanitary Superintendent. Dr. Cyrus Edson, son of Mayor Edson, and Sanitary Inspector, has been made chief of the second division. Willard Bullard has been appointed chief of the third division. Dr. J. B. Taylor is chief of the fourth division. E. H. Janes, Assistant Sanitary Superintendent, is chief of the fifth division. J. C. Collins has been made chief of the sixth division. Dr. Day is chief of the seventh division, and Dr. John T. Nagle is deputy registrar of records; Inspectors Hockheimer and Cowl, in the Vaccinating Bureau, and McChesney, Lockwood, C. P. Russell, Stillwell, Roberts, and G. F. Morris, in other bureaus, have been removed, but one or more of them may be reappointed. Drs. J. F. Dunphy and G. S. Conant were appointed inspectors in the fourth division.

EDITORIALS.

Volume XXXVII. No. 1.—Eighteen years ago the January number of this Journal bore this inscription—Vol. I., No. 1, now it is Volume XXXVII., No. 1. And in the fearful lapse of time which is represented by the difference in these two inscriptions, what has not occurred to the great profession of medicine, and to this one of its humble chroniclers?

How many medical warriors have achieved great triumphs, great distinctions, and now rest from their labors in glorious graves? How many are yet in the thickest of the battle—pioneers, leaders, heroes? How many that were strong, vigorous, eager, are now finding their "days but labor and sorrow," so soon passeth all away? But, come weal come woe, there is for the recorder of all but one lesson, one duty—to write it all faithfully down, to be "the abstract and brief chronicle of the time;" to be accurate, loyal, temperate, just; to carry steadily one of the many standards of the profession, and to be true always to the inscription which this one bears—*Scientia et veritas sine timore.* So should it be; so may it be; so will it be, if the medical host before whom the standard is carried will make strong the arm of the standard-bearer.

Psychiatry.—If there is any one work which is more wanted at the present time by the medical profession than all others, it is one on the subject of psychiatry; one that is simply, clearly, intelligibly written; one in which there is no evasion of the truth; in which the author is willing to openly confess ignorance, and not always trying to conceal this by hiding it amid a mere garniture of words. A work totally free from that great and very familiar folly of putting forth a pedantic technology in which to disguise a patent inability to indicate de-

monstrable truth. A work, in brief, in which the author will describe in plain, simple, intelligible language, what he can prove to be the truth, and in which he will, when it is incumbent upon him to do so, openly confess his ignorance, and that of the specialists whom he seeks to represent.

Such a work would be bought by almost every physician and attorney in this country. It is the great want of the medical and legal profession, and one which is to-day wholly unsupplied.

It is a great mistake, and a very common one, to try and build up a peculiar technology for the department of psychiatry; to cultivate peculiar forms of expression for the delineation of ideas germain to the subject; to take very simple ideas, and to so enwrap them with words, that to understand what is presented for inspection one has to strip away this foolish verbiage; very much as one strips away the endless folds of cere-cloth in his examination of an Egyptian mummy, the results in each case being often identical; to find thus buried away a little something all too insignificant to reward one for such serious labor. The present language of psychiatry is ludicrously stilted, and the harvests of psychiatry poverty-stricken and barren.

With these facts so familiar to all there is no specialty in which its representatives are so egotistical, so vain, and so conceited. As a rule they take or mistake very often mere words for ideas, dogmatism for demonstration, and assertion for proof. A very small idea dressed up in their bombastic wordlivery, they hail as something marvelous and great, and if it really be appreciable in the scales of common sense and reason, the unusual fact is heralded with endless reiteration and ludicrous exultation.

The fact is that the pretension of psychiatry is a stupendous bubble which needs but the most insignificant prick to have exposed the contained gas, and to have secured an inevitable collapse. One has but to remember the memorable trial of Guiteau to appreciate this fact, and to feel how almost hopeless is the claim that is made for psychiatry as a science. Did it possess but a fraction of the truths and the strength which are claimed for it, thousands would be found studying and pursuing it, where but a tithe of such numbers are to day its noisy representatives. It is a great mistake for "psychiatrists" to assume that it is difficult to understand and to weigh the substance of psychiatry. Hundreds who could be and would be leaders in this field turn from it, because there is not in its domain sufficient to warrant labor and cultivation. And what is really understood by any of its representatives is certainly easily comprehensible to almost any one of common sense.

To assume that the comprehension of all that is comprehensible in the teachings of psychiatry is difficult, is irrational and indefensible. Certainly, if those who are admitted by their brethren (in the specialty of psychiatry) to be experts are to be taken as the standard of mental strength and professional acumen sufficient for the accomplishment of scientific results, it is a libel indeed on the profession to claim that its average members are not fully equal to the attainment of similar position. What is really comprehended by the psychiatrists of to-day is comprehensible by nine-tenths of the profession; though, if one were guided by the pretensions of modern psychiatry, it would be regarded as folly or impudence to make such a claim. The trial of Guiteau, and the records of many cases since, have removed the veil that was once inviolably worn, and the mask which concealed so much, and misled so many, has been thoroughly stripped away.

But it is proper to illustrate the truth of what is here urged, and not simply to deal in general declaration. There are four recent works on one of the branches of psychiatry—insanity. Their authors are Hammond, Mitchell, Hamilton and Spitzka. One has but to examine these volumes cursorily to find endless antagonism, inconsistency, contradiction, and ambiguity.

The last-named author discusses the views, classifications, definitions and opinions of his contemporaries. And it is painful, if it were not ludicrous, to read his comments and criticisms. One reads constantly such expressions as these—"this is sheer folly," "this is absurd," "this is ridiculous," "this is erroneous," etc. After so magisterial a disposition of all of his competitors, seniors, brethren, etc., the reader feels that he has at last met with a master—one who is *facile princeps* in this exalted and mysterious domain—and he rests secure in the fond belief that all of his difficulties and trials in the study of psychiatry are, with such a guide, absolutely at an end. And so he trusts his great teacher, and confides in him, and looks with certainty to having all the crooked paths made straight and the rough places made plain.

First, he makes the crucial test of his author, and, with tender but absolute confidence, essays to make forever and preciously his own, this great author's definition of insanity. So, turning to the proper department of the work, he finds that his author, after having "set on" all presumptuous authorities, much as Don Quixote set upon the foolish flock of sheep, thus "lays down the law." He says: "Insanity is either the inability of the individual to correctly register and reproduce impressions (and conceptions based on these) in sufficient number and intensity to serve as guides to actions in harmony with the individual's age, circumstances, and surroundings, and to limit himself to the registration as subjective realities of impressions transmitted by the peripheral organs of sensation, or the failure to properly co-ordinate such impressions, and thereon to form logical conclusions and actions; these inabilities and failures being in every instance considered as excluding the ordinary influence of sleep, trance, somnambulism, the common manifestations of the general neuroses, such as epilepsy, hysteria, and chorea, of febrile delirium, coma, acute intoxications, intense mental preoccupation, and the ordinary immediate effects of nervous shock and injury."

If this distinguished author knows what he means (and no one can suppose so), it is very certain that no one else does. It may be said, however, that if he has not achieved the high object in view, he has certainly accomplished what no one else has achieved, in having written the longest, the most unintelligible, the most foolish, and the most absurd sentence in general or medical literature. It is the instinct of most men to be imbued with the spirit and wishes of Paul, in desiring to sit as a pupil at the feet of Gamaliel, but it is not rash to say that if Gamaliel had launched at his fond pupil so formidable a missile as that just delineated, it would have required more than the apostolic love and charity of Paul to have prevented his fleeing in a state of consternation and dismay.

But why consume space in illustrating the truth of what has been urged, that even among those claiming to be experts in psychiatry, there is endless confusion, antagonism and contradiction? Is the fact not so written, in the secular and professional literature of the day, that "he who runs may read," and that, in correctly reading it, "the wayfarer, though a fool, may not err therein?"

THE THERAPEUTIC VALUE OF BICYCLING.—Dr. George S. Hull says, in the *Medical Times and Gazette:* "Concerning the therapeutics of the bicycle, it is not making too broad a statement to say that it can be recommended in nearly all cases where horseback riding is indicated, the exceptions being ladies and very old or crippled men, and for most of these the tricyle is still preferable to the horse, and certainly infinitely safer. In horseback riding the inexperienced rider gets the most exercise (jolting, which is not always beneficial), while the skilful horseman merely gets the pure air, and very little above the usual amount of that, as his circulation and respiration are not much increased by the easy,

quiet motion his *skill* as a horseman gives him. In fact, after learning to 'ride horseback,' it often becomes tiresome, the exhilarating effect passes off, and the good results consequently diminish. In bicycling, however, the whole body is in motion, and every rider gets a like amount of exercise. The circulation is quickened to any extent; the blood-vessels of the limbs are not compressed to the extent they are in horseback riding; there is but little or no jarring; the muscles of the trunk and upper extremities (which, as a rule, are so imperfectly developed in physicians), are brought more into play, and the mind kept actively engaged in the sport—for sport it becomes, even when flying along to a 'terrible accident,' or to a death-bed scene."

NOTE.—There is no one who really knows how to ride, who knows his horse, and whose horse knows him, that will read the above paragraph without a smile. The fact is, one who is at home in the saddle can ride all day without fatigue, it is only the novice who suffers. Again, the horse is company; indeed, he is a companion; he loves his rider, and his rider loves him. There is dire solitude on the best "cycle" that is sold. It is a grotesque condition and position for a man; and still worse for a physician, who, at best, is not too dignified for his work.

It is, too, impossible to believe that the rider of the "cycle" is not fatigued, and sorely fatigued. When one rides fifty, or even a hundred miles a day (some have ridden 250 miles in 24 hours), propelling himself over every foot of the way, it is impossible to avoid fatigue, and very great fatigue; far, very far greater, than is possible with an experienced rider on horseback.

It is on account of these absolute facts, that the "cycle" is not generally adopted. If a tithe that is said of it were true, they would be seen on every highway, whereas the "wheelman" is still a curious, rare, and amusing spectacle.

As to putting ladies on a "cycle," who that loves woman would see her thus? A beautiful woman on a good horse, one that loves her, as every good horse (like every good man) does, is the most beautiful picture on earth—with her tresses afloat on the breeze; her face and lips all carnation from the exercise and the air; with her eyes sparkling, and her long flowing robes all but sweeping her path—where is the man, that is good for anything, who would not, all bent low, and with lifted hat, feel that he was looking upon the most perfect picture of earth? A picture too perfect to spring from any but an Architect as divine in execution as He is sublime in conception.

Is there any real man who would substitute for this a creature with "divided skirts;" with man's poor garniture protecting her limbs below; with her knees alternately and painfully working up and down like the piston of a pump; and her pathway like that of an Ohio steamer at low water? And who would see thus "old ladies" and "crippled men?" Indeed; no! never—leave the "cycle" to the athletes and the "wheelmen." Woman must have the horse, and man, greedy creature, must have both.

TRANSACTIONS OF STATE MEDICAL SOCIETIES.—It may be useful, at the commencement of a new year, when so many are seeking to "turn over a new leaf," to say something in regard to this old and familiar subject.

In almost every State the "State Medical Society" is sufficiently active and vigorous to meet once a year and to publish, in book form, the transactions of each meeting. A copy of these transactions is sent to every respectable medical journal. Every medical journal is not only willing but anxious to say something in praise of these volumes, and to help along the good cause of State medical organizations and State medical literature. Yet, if one examines the eighty medical journals published in this country, it is rare indeed to find any one of them containing more than the briefest allusion to this interesting sub-

ject. Such volumes are mentioned only by title in the list of "Books and Pamphlets Received."

What is the cause of this significant fact? Of course there is a cause for it, and a strong cause; everywhere felt and everywhere apparent. What is it?

It is that usually in the minutes of the meetings there is little of interest to any but the members of the society, and that the papers read and published do not contain material worthy of mention or even of recapitulation. As a rule, they were prepared either by request, and at the last moment, or they were presented because their authors wished to have some little prominence in the hall of meeting and in the volume of transactions.

It may be asked, that if these unpleasant facts be true, Why did the "Committee on Publication" ever publish such papers—papers that injure the committee, the authors of the papers, and the society which issues them? The answer is, as every reader knows, that it is rare indeed to find a committee whose members have "the backbone" to reject papers sent to them. Most of these members have "aspirations," and hope at some future day to become officers of the society. To effect this result votes are required, and authors of the worst papers possible have still the power of the franchise.

Some may cry "Shame!" "This is an outrage on the profession." "It is libellous," etc. But be this as it may; whatever be said, the reasons here given are true; all know that they are true; all truthful men will say that they are true, and as to the rest, who cares what they may say?

There's another reason for these discreditable volumes published. It is that there is a pernicious custom for each one who has a paper to read to move that the paper of his predecessor be published, and as the society has not "backbone" enough to vote this down, each motion is carried, and the dire result is achieved. The society is then and there made to father every "monster," or "abortion," or "premature birth" that is cast forth upon the world. The transactions manifest what Carlyle termed "the dead level of mediocrity," and so either become the prey of the "waste-paper man," or are given as fit food for kindling the winter's fires.

What is wanted to put an end to this crying evil, this great wrong, this professional shame? Something that is becoming very rare. It is popularly known as "backbone." No Body can stand without it.

THE MUSEUM OF HYGIENE AT WASHINGTON.—The Army Medical Department has already achieved a world-wide reputation for its work in medical bibliography, for its library and pathological museum. The Naval Medical Department soon bids fair to rival it in the direction of hygiene. It has already collected a library of over five thousand volumes, chiefly of works relating to sanitary science. Its museum of hygiene is growing, and already contains two hundred and sixty-four exhibits. The American Public Health Association has made it its permanent repository. The Surgeon-General requests contributions of articles, appliances, models, drawings, etc., illustrating improvements in food, water-supply, bedding, clothing, marine architecture, house and hospital construction and furniture; apparatus for heating, illuminating, ventilation, and removal of excreta and refuse; culinary, laundry, and bath facilities: appliances for physical culture and exercise; and whatever else tends to the preservation of health and the prevention of disease. The exhibits are properly credited, by descriptive labels, to the persons contributing them.—*Record.*

NOTE.—The above paragraph from the New York *Medical Record* embodies facts which the Surgeon-General of the Navy has, in various ways, endeavored to make known; and though the matter has already been introduced to the attention of the readers of this JOURNAL, the subject is so important as to justify a second mention of it.

The present Surgeon-General of the Navy has administered his department with great ability; the museum, the reports, and the official circulars, all bear the most abundant testimony to this fact. There is not a physician in this country who is not gratified at his record; indeed, it is something for the profession and the Government to be proud of; and it will be an absolute calamity for his tenure of office to be disturbed by any cause whatever.

THE COMMUNICABILITY OF PHTHISIS.—We are told on the authority of the *British Medical Journal* that the most striking and probably most valuable part of the work done by the Collective Investigation Committee has been that relating to the communicability of phthisis. One thousand and seventy-eight replies were received to the circulars sent out. Of these 673 were simple negatives, while 261 replies affirmed the proposition that phthisis may be communicated from the sick to the healthy, and afforded evidence in support of that opinion.

Out of these 261 affirmative replies 192 were accompanied with reports of cases illustrating the communicability from husband to wife, or the reverse; and in 130 instances it is stated that no family history of the disease existed in the parties to whom the disease was transmitted.

On the other hand 105 persons testified in their belief that the disease was not communicable.

The facts thus elicited show that a small proportion, probably less than five per cent., of general practitioners have met with evidence which leads them to believe that consumption is contagious. Considering the numerous sources of error in observations of this kind, we cannot consider that certainty has yet been reached. If consumption is contagious, it is very feebly so, and the simplest precautions ought to be sufficient to prevent it.

NOTE.—The above paragraph is from the *New York Medical Record.*

It seems strange that "collective investigation of disease" could command the confidence of so many physicians. When one remembers how many fail to make a correct diagnosis, how many fear to report their failures, and only their successes; when due allowance is made for the influences of diathesis, age, climate, employment, diet, and general surroundings, what is really the value of collective investigation? It is one of the meteors at present athwart the medical firmament; its pathway is bright and attractive, but there is only darkness to remain behind.

Nothing is so convincing in regard to the non-communicability of phthisis as the statistics of the Brompton Hospital for Consumption. So far the evidence is complete; the disease there is never contracted by the employees—not even the laundresses.

With such facts, and others on record equally good, what is to be said of the folly of the Wisconsin State Medical Society in warning the Public of "the contagiousness of phthisis?" *Marcus dixit: sed non ita est!*

NEW YORK CITY BOARD OF HEALTH.—Scientific and honest men will never cease to regret the displacement of Prof. Chandler, as Superintendent of this Board, this displacement being due to the weakness or corruption of Mayor Edson in simply refusing to nominate any one else, when the Board of Aldermen (!) refused to confirm the nomination of Prof. Chandler. Had the Mayor refused to nominate any one else, Prof. Chandler would have "held over," and remained in office. Instead of so doing, the Mayor withdrew the nomination of Chandler, and offered that of General Shaler, a politician, and one wholly unfit, by antecedents and education, for such a position. Every one suspected that there was some latent reason for all of this which time would reveal; and these suspicions have been quite confirmed.

"The Board of Estimate and Apportionment" reduced the amount of appropriations for the Board of Health so much, that six sanitary inspectors, paid each a salary of $1,500, were discharged, thus reducing the outlay for such service $9,000, while three new offices (chief sanitary inspectors) at $3,000 each, were created; making the amount necessary for this purpose $9,000. These offices were given to Mayor Edson's son, Mr. Bullard, a harbor master, and the third to a brother of one of the Commissioners, Mr. Brennan. These offices are created, while six physicians, as sanitary inspectors, were discharged.

When General Shaler displaced Prof. Chandler, as President of the Board of Health, it was generally believed that there was political trickery, if not fraud, at the bottom of the change. It now appears that Dr. Cyrus Edson, the Mayor's son, was to be provided for, as he gets one of the new offices. It is not, as the Mayor intimated, a question of deserved promotion, but of creating new offices in order to make "promotions." In a similar way, Bullard is "promoted" from the position of harbor-master, from which he is soon to be ousted by the new law, to be one of the new chief inspectors. Without the slightest qualification for a place of the kind, he is to have professional experts report to him concerning matters of which he has no special knowledge. The third new chief inspectorship goes to Commissioner Brennan's brother; and as an offset to this General Shaler's son remains on the salary list of the Health Board, and his son-in-law gets an increase of salary as Secretary of the Fire Department!

This action created so much just indignation, that one of the Health Board employees was sent to the "Commissioners" to remonstrate, when the necessary $9,000 were voted for the six sanitary inspectors who are to be retained; but the "chief inspectors," who know nothing of their work, are retained at $3,000 each! So "the job" in the Health Department is completed.

To understand the pretence of economy, under which this outrage was perpetrated, one has to glance only superficially at the appropriations made. For "sheriffs' fees," $60,000 were asked, but $72,000 given; for "election expenses," $163,400 were asked, but $202,981 given; for "miscellaneous" (!) $185,400 were asked, but $496,841 given. That is to say, the "Board," for three purposes only, gave $323,022 more than were asked, and yet voted to have six physicians, as experienced sanitary inspectors, discharged, to save by pretence $9,000; while $9,000 were appropriated for three new offices, the incumbents of which know nothing whatever of their duties, and are only the favorites of political pettifogging jobbers. This is the reason that Prof. Chandler was not retained in office.

Corps of Assistant Editors.—It seems that many medical journals are now passing through this phase of a medical journal's life, and that all journals must be the subject of the editorial corps epidemic, just as all children must pass through their little epidemics of measles, mumps and scarlet fever. This Journal had the malady sixteen years ago. It may be remembered that it had then the most brilliant corps of "assistant editors" whose names ever appeared on the title page of a journal—Samuel Henry Dickson, Alfred Stillé, W. H. Van Buren, T. G. Thomas, Louis A. Sayre, F. H. Hamilton, J. J. Chisolm, L. S. Joynes, Paul F. Eve, W. O. Baldwin, Theodore S. Bell, Stanford E. Chaillé, J. Dickson Bruns, etc.; a brilliant galaxy. But these distinguished physicians were all too overwhelmed with work in their own field of labor to be "assistant editors;" so, in all fairness to the profession, the claim (of a corps of editors) as unsustained by facts, was practically abandoned, and the names mentioned were withdrawn. Other journals have had a somewhat similar experience.

Some journals had the malady very severely—carrying little medical directories on their title pages. One medical journal of 60 pages had 75 editors; or

one editor and two-tenths of an editor to a page. Strange to say, judging from the appearance of that journal, only the fractions of editors seemed to do any work, the remainder of "the demnition total" (as Mr. Mantalini would say) believing that they had done enough towards editing a journal by simply giving their names! A view, by the way, not uncommon under such circumstances.

Even that journal which suffered so badly got better, however, and is now convalescent.

One of the weekly medical journals now issues 16 pages only, but has 25 editors, or one editor and five-tenths of an editor to a page!! The fate of the seventy-five-editors journal is, in a humanitarian and charitable way, respectfully commended to it.

The fact is that, unless an editorial corps really works, it is unjust to it, and to the profession, to array the names of those who compose it on the title page. Physicians have a vast deal more sense and acumen than many suppose to be the case, and when they see on the title page of a journal a long list of editors, who never do any work, it is the journal which suffers, and not the profession. It is the owners and editors who are deceived, not the Public. Indeed, it may be safely said that physicians judge of a journal, not by what they find on the outside title page, but by what is presented on the inside. *Verbum sapientibus.*

A Hint to Medical Publishers.—If publishers of medical books, in advertising them in their circulars, catalogues, and medical journals, would publish the unfavorable as well as the flattering reviews of them, such a course would induce physicians to receive such notices with confidence and respect. It is easy to cull, from eighty American medical journals, flattering notices of any medical book that the greatest simpleton could write and the most foolish publisher give to the public. *Audi alterem partem* should, at least occasionally, be remembered by book publishers in their advertisements.

Some of the journals went into beatific ecstacies over "Ranney's Anatomical Plates," "Dunglison's School Physiology," "Bartholow's Practice," "Hamilton on Insanity," and even over Miller's fraudulent "Clinical Lectures;" "but a few swallows do not make a summer." Medical book publishers must be fair, and if they pretend to give the notices of the medical press as guides, they should give them fairly.

The *Archives of Pediatrics*, a monthly journal devoted to the diseases of infants and children ($3 a year), edited by William Perry Watson, A.M., M.D., physician for diseases of children to the Central Dispensary, and assistant to Christ Hospital, Jersey City, N. J., commenced in January, 1884. The editor has the best wishes of this journal.

The Modern Languages Association.—The great teachers of the chief American literary institutions met in this city in December, and established, at least by vote, this new association. Every physician who has read the "proceedings" of these meetings cannot fail to have a higher respect for medical societies. These latter Bodies are frequently ridiculed as mere assemblages for the retailing of gossip; for festive "excursions" and "banquets;" for petty struggles for petty offices; for the purpose of advertising superficial speakers and debaters in the local newspapers, etc.; and while much of this criticism is just, as poor as these meetings often are, they are eminently respectable when contrasted with the late meetings of the great teachers of the chief literary colleges. It may be safely said that the poorest medical society that ever convened never indulged in such absolutely nonsensical debate, and in such perfect twaddle. Every American teacher and scholar must have been surprised, mortified and disgusted. The puerile inanities of the great men assembled were

marvelous and unprecedented. Medical society meetings in contrast are absolutely imposing. *Courage, mes frères!*—"things are not what they seem;" or men either.

CREDITS.—Every respectable journal endeavors to give due credit for all articles selected from its exchanges; certainly for all original articles thus selected. But some journal editors are so fussy and absurd that they wish to have full credit even for articles selected by themselves from other periodicals!!! It is difficult to imagine what credit is to be given to them for having extracted matter from other sources. They should read and remember the old nursery stave:

"Little Jack Horner sat in a corner,
Eating a Christmas pie;
He put in his thumb, and pulled out a plum, and said,
'What a smart boy am I.'"

There are very many Jack Horners in journalism.

BURN-BRAE.—There is nowhere to be found a better institution than this to which to confide anyone needing treatment for mental troubles. The locality is unexceptionable for salubrity, good climate and healthfulness. The scenery is beautiful and varied. The buildings are admirably designed, comfortable, spacious and in perfect order. The superintendent, Dr. R. A. Given, is all that the friends of patients could desire, either in professional accomplishments, skill or experience; while, as a man, his kindness, sympathy and liberality are unvarying and unbounded. He has hosts of friends throughout the South and West, as well as in the Northern and Eastern States, and his "references" are unsurpassed. This is saying much for him and his institution, but it is only the truth, and it is all fully deserved. His assistant, Dr. Phillips, is worthy of the fullest confidence and respect.

PUBLISHED SIMULTANEOUSLY IN THREE CITIES.—Such is the announcement in regard to some of the exchanges. It is marvelous that any publishers could be so foolish as to suppose that any one could be silly enough to believe such a statement; or that publishers could wish anyone to believe them to be so foolish as to really do what they claim is done by them. Can any one suppose that a publisher, who is not an idiot, would publish a journal in three cities, and so triple the cost of publication? If these publishers mean that their journal is sent to three cities for distribution, the same may be said of almost every journal.

Physicians are willing to believe a great deal, but it must be something that can be believed. It sounds very grandly, and is quite imposing to say that a journal is "published simultaneously in three cities," until the reader knows that it is not; and then the statement need not be described. Its character is too apparent.

THE AFTER-HISTORY OF A CLASSIC "VOMIT."—Certain scientific journals have been giving their attention of late to the history of Jonah. One of them has pointed out that if the fish swallowed the prophet in the Mediterranean and threw him out again near Nineveh, he must have been carried through the Straits of Gibraltar, round the Cape of Good Hope, up the Persian Gulf, and into the Tigris.

A LESSON NEVER TO BE FORGOTTEN.—All who find in this JOURNAL a work worthy of their support, or a work that they wish to support, should remember

that what is most essential for it is a prompt contribution of that material aid, without which no journal can be punctual and vigorous. In seventeen years, the failure of the subscribers to remember this fact, *and to act upon it*, has been the chief cause of every trouble which the JOURNAL has had to endure. Will not every reader resolve that, so far as it rests with him, this trouble shall not be borne and this load shall not be carried? It saves each one the pain of reading reminders; painful to receive and far more painful to send.

DR. GEORGE T. ERWIN has resigned his position as Assistant Physician to the Central Lunatic Asylum of Kentucky. Dr. T. H. Clarke, of Hopkinsville, Ky., was appointed as his successor. The record of Dr. Erwin at the asylum mentioned is one of which any physician may be justly proud, and he carries with him in his retirement the respect and esteem of the entire profession.

MEDICAL MATTERS IN VIRGINIA.—At the next session of the Legislature efforts will be made to have a "sure enough" Board of Health; that is one whose members will be paid to do their work. Only in such a way can work be done. There will also be an effort made to establish a Board of Medical Examiners. All who read these notices should co-operate manfully in securing the enactment of such necessary and beneficent laws.

THE "TEXAS COURIER RECORD OF MEDICINE."—This is the title of a new journal that has been commenced at Fort Worth, Texas. It is edited and published by Drs. F. E. Daniel and W. B. Brooks, of Fort Worth, at $2 per year. It is an octavo of 69 pages, and presents an excellent appearance. The contents of the journal are excellent, and it is to be hoped that this Texas journal, after the failure of so many, will be a deserved and brilliant success.

AUSCULTATION FOR STONE.—It is proposed to connect the sound with the ear by means of a flexible tube like that of the stethoscope. The presence of the smallest stone is made strikingly manifest by this method.—*Ex.* [This device is ten years old.—ED.]

THE *Medical Student* is a new medical monthly, published in this city. It is edited and published by Dr. W. D. Mortimer as an eight-page double-column journal at $2 a year. It contains matter of special interest to medical students, and is well edited.

THE *Northwestern Lancet* contains on its title page the advertisement of Dr. H. H. Kane, and a number of journals have issued the same advertisement. This is a great wrong to the medical profession and one that should be speedily corrected.

THE "ARCHIVES OF PEDIATRICS."—The first number of this new journal, noticed elsewhere in this issue, has been received. It is prepared with great judgment and skill, and deserves a full measure of success.

IMPORTANT lesson to all writers, as given by Dr. Billings, U. S. A.: 1. Have something to say. 2. Say it. 3. Stop when you have said it. 4. Give a proper title to what you have said.

MR. JOSEPH LISTER and Mr. William Bowman have been made Baronets. Well-deserved honors.

DIED, January 13, Dr. H. A. Dubois, of this city.